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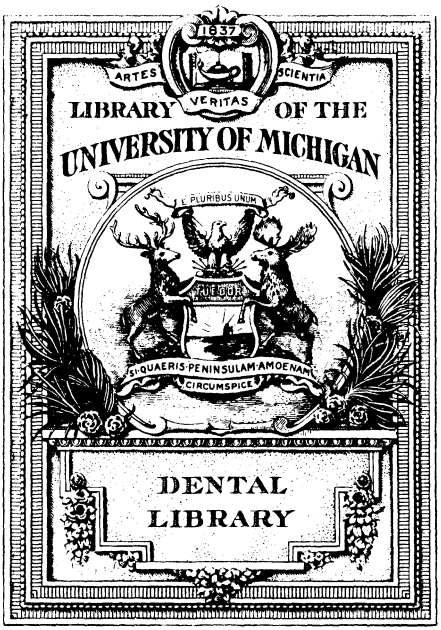
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AMERICAN DENTAL JOURNAL

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TABLE OF CONTENTS.

PROGRESSIVE COURSE OF PRACTICAL INSTRUCTION

ORTHODONTIA.

BY J. N. M'DOWELL, D. D. S.
PROFESSOR OF ORTHODONTIA, COLLEGE OF DENTISTRY, UNIVERSITY OF ILLINOIS.

CHAPTER XIX.

TOOTH MOVEMENT—PERIDENTAL MEMBRANE—DIVISION—FORCES TO OVERCOME—ANCHORAGE—CHANGES TAKING PLACE—DANGERS FROM MOVEMENT—SURGICAL TREATMENT.

The peridental membrane is made up of a strong, white, fibrous tissue, surrounding, protecting and holding the tooth in its socket.

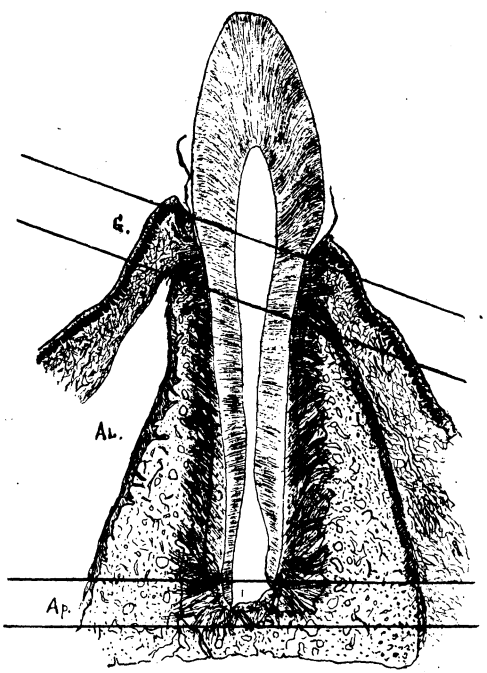


Fig. 1.

It is divided into two classes: 1, the principal fibers, which spring from the cementum of the root and are attached to the bone of the alveolus or the surrounding tissues, thus performing the physical function of holding the tooth in socket; 2, the indifferent or interfibrous tissues, made up of fibers and cells, which fill the spaces between the principal fibers and surround and accompany the blood.

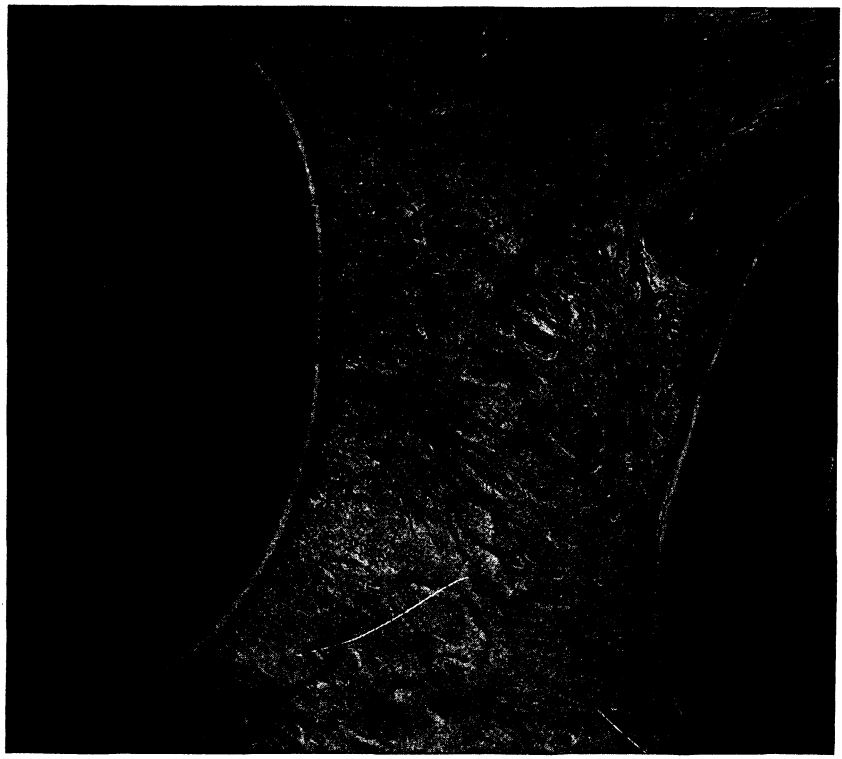


Fig. 2.

DIVISION OF PERIDENTAL MEMBRANE.

The peridental membrane is divided into three parts for reference and study: 1st, gingival; 2d, alveolar; 3d, apical. (Fig. 1.)

The gingival portion surrounds the neck of the tooth below the border of the alveolus and supports the gingiva. These fibers on the labial and lingual sides of the roots spring from the cementum in large bundles, breaking up into smaller ones where attachment to

the gum is made. (G, Fig. 1.) On the mesial and distal sides the fibers pass directly from tooth to tooth. (Fig. 2.) A cross section highly magnified.

The alveolar division is between the border of the alveolus and

Fig. 3.

the apex of the root. These fibers pass directly from the cementum of the tooth to the alveolus to the gingival border. (Al. Fig. 1.) In the lower part the fibers pass obliquely, being inclined upward away from the apex of the root.

In the apical portion the fibers are attached to the apex of the root. They are very large and break up into fan-shaped fasciuli,

spreading out in all directions to be attached to the bone. (Ap. Fig. 1.)

This tangent-like arrangement of the fibers the full length of the root, like the cables of a suspension bridge, swings the tooth in its socket, holds it there and prevents depression, elongation or rota-

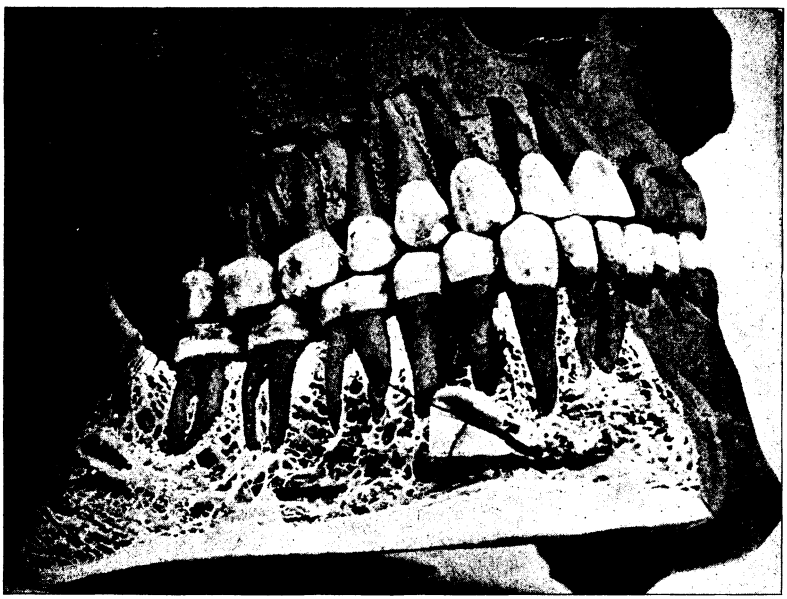


Fig. 4.

tion. And in the movement of the teeth with regulating appliances the tension of these strong tangent fibers, as well as the alveolar process, has to be overcome.

FORCES TO OVERCOME IN MOVING THE TEETH.

First is the strong tension of the peridental membrane. This is a constant tension, and as the tooth moves, these fibers back of the moving teeth are temporarily stretched, while those in front of the moving teeth are compacted. In the movement of a cuspid backward, the lateral tooth usually follows the cuspid for the space of a millimeter at least. This is the result of the attachment of the strong fibers of the peridental membrane that passes from one tooth to another through the gum tissues above the alveolar ridge. (Shown in Fig. 2.)

In rotating a tooth, beside absorbing what osseous structures may be in its path, there is a terrific tension of the tangent fibers to overcome, for they radiate in such a manner as to resist rotating pressure (shown in Fig. 3) until their attachments are cut off by a physiological action due to pressure.

The second force to overcome is the osseous structure in front of a moving tooth. When pressure is first applied there is a bending of the alveolar process, followed in a few days by preparations for

Fig. 5.

absorption of the osseous structure. If several teeth are to be moved at once, it is necessary to obtain the most perfect anchorage, which must be as near to stationary as possible.

Fig. 4 shows the great amount of bone that must be plowed through by the movement of the different teeth. If it is possible to relieve the stress on the anchor teeth by pitting one malposed tooth against another, making a good, firm reciprocal anchorage, it is best to do so.

Stationary anchorage is the most important of all, and it is always best to use this form of anchorage if possible to obtain it. It is produced by making the bands for two or more teeth, soldering them together and cementing them on. This form of anchorage, when moving the anterior teeth backward, is absolutely necessary. If

the anchorage is not stationary, the anchorage will move through the bony process, in proportion to the pressure applied for the movement of the other teeth. Another form of stationary anchorage is with the headgear, known as occipital anchorage.

Changes that take place in tissues from movement due to stress of regulating appliance is accomplished by the combined or co-ordinate action of the osteoblasts and osteoclasts. The osteoclasts cut off the attachments of the fibers and remove the bone of the alveolar wall in front of the moving tooth. Osteoblasts build in new bony structure for the reattachment of the fibers. Fig. 5 shows the attachment of the fibers to the bone highly magnified. When the deposit is completed, the tooth becomes firm in its socket again. Hence, the necessity of wearing a retainer until the new tissues and attachments are made.

(To be continued.)

PROSTHETIC DENTISTRY.

BY B. J. CIGRAND, B. S., M. S., D. D. S.,
PROFESSOR OF PROSTHETIC DENTISTRY AND TECHNIQUE, COLLEGE OF DENTISTRY, UNIVERSITY OF ILLINOIS.

CHAPTER XXXVI.

The dexter and sinister sides of the face are not alike; in fact, the external hemispheres of the entire anatomy seem the same, but

on careful examination are decidedly different. The eyes are out of line in two cases out of five, and one eye is stronger than the other in seven persons out of ten. The right ear is also, as a rule, higher than the left. Only one person in fifteen has perfect eyes,

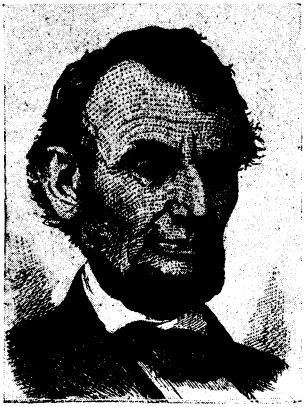
the largest percentage of defects prevailing among fair-haired people. The smallest interval of sound can be distinguished better with one ear than with both. The nails of two fingers never grow with the same rapidity, that of the middle finger growing the fastest, while that of the thumb grows slowest. In fifty-four cases out of one hundred the left leg is shorter than the right. The bones of an average human male skeleton weigh twenty pounds; those of a woman are six pounds lighter. Hence, the study of the face will be interesting in its dual sides.

The portrayal of the face both in its preservation, conservation and reproduction has been a theme in which the human race has been interested for ages. The ancients attempted to save it among earthly things by embossing it or placing it in relief on metal; and yet they have simply striven to do the same thing we are trying to do today, namely, to preserve, conserve and to keep for an indefinite space of time; though our professional purpose is in preserving it during the time of life. The ancients have all had various ideas as to the ideal face. The word ideal to me is a peculiar word. The word ideal to me is very much like the word moral. The word moral has so many meanings. The moral law of one town is not the moral law of another. The moral law of one state is not the moral law of another one; the moral law of one nation is not the moral law of another country. Some things that are done in the United States would be considered immoral in Spain, and people there can do things which we would consider immoral. And so the question of morality is largely one of geography. So it is with the word ideal. What is ideal to me may not be at all ideal to you. And, again, what in my opinion would be ideal today would be readily changed by time and further study; so the all-important and to me over-treated subject of the "ideal face" does not in fact become so essential as is an understanding of the laws of harmony, since a thorough comprehension of beauty resolves itself into a complete knowledge of form and shade.

The term law of correspondence should not be employed in conjunction with matter which is constantly changing. The laws of correspondence are well observed in the essence of inanimate things such as in the proper decoration of a room or the appropriate shading of an oil painting. The picture on a wall may be chosen with a view to correspond or harmonize with the paper. The chairs

in a room may be selected with the purpose of being in keeping with the surrounding tints and decorations, hence in this arrangement of inanimate things the laws of correspondence is fully respected. Or the shade of a dress or suit may be in accord with the complexion of the wearer; there is no animate relation or vital energy which binds the garb to the person, and the cloth may be purchased in harmony with the laws of correspondence so as to make the most agreeable effect.

But I have sought to find a term or word which can be applied with regard to the human teeth and have decided that the origin of the word and its relation to things impels me to say that in the selection of teeth the law of co-ordination should be observed, since



the human frame and its covering and all that pertains to life is in a constant turmoil of change the term corresponding in contra-indicated, since an inner force is at work altering, modifying and changing, and hence these parts are influenced by a superior power and all the changes are co-ordinate. The great law which recognizes the changes and arranges to appropriately adjust these constant changes and bring about harmony during the change is—co-ordination. We speak of a cabinet as co-ordinate with the chief executive; we say the muscles of the arm co-ordinate when certain definite movement or power is desired or generated, hence harmonious and agreeable action and systematic accord.

So with the teeth, temperament, age and structural outlines all should co-ordinate. In conjunction with these elements which

typify age the gradual appearance of folds in the face complementary to repeated action of muscles must not be lost sight of, since age when wrought with all its facial signs is oft more beautiful than youth with artifice as attributes. Among the accessories of age are lines of character and indications of earnest and honest endeavor molded upon the face in the form of grooves or wrinkles. Many faces acquire these wrinkles while the oral cavity has still a complete denture, why could not the same face contain wrinkles with an artificial denture; why attempt to remove these symbols of advanced life? There are some men who have such striking lines in their faces, such as the face of Abraham Lincoln, or the face of the late President McKinley, that to wipe out these lines would mean to set aside their character. I believe in some of these facial lines remaining. I do not believe in smoothing them all out and making them symmetrical, oval and beautiful. I hold it good prosthetic principle to know how and where to preserve these lines. They are not so pretty, it is true, but they still mean much to such as prefer character to superficial beauty.

As to rules, I am less eager than most prosthesists in allowing the patient to determine what the teeth shall be. Invariably a patient will say to you, "My teeth were small. They were white. They were beautiful." That is the patient's own recollection of them. Of course, we should consult them and inquire into their wants, but as for depending upon their judgment, I would say no. Hence, be less artisan and more artist. It is possible that the face of some relative in the family bears a striking resemblance to that of the patient, and this may aid us in our work. We should not place too much reliance, however, on what is said with regard to the description of the face by the patient. I rely very little on photographs, because the modern photographic artist has killed the art of facial expression. The old-time tin-type or daguerrotype that left the marks on the face where God implanted them are much more reliable than the photograph of today. I do not agree that all these lines should be eliminated from the negative or the face. The photograph of today takes all the lines of character and smooths them out. There is no naso-labial fold. The subject is just as a beautiful piece of white marble statuary. There are no lines to be seen, such as exist on the face true, and so I do not depend very much on modern photo-

graphs unless they come to me untouched, or, better, proof impressions.

Rules must not be too rigid. We must act and pass judgment more in accord with what best conserves the face than to execute some definite illy applied rule. The artist who paints a picture usually portrays on canvas that side of the face which he judges appeals to him as being the most beautiful and most symmetrical, so that his work is comparatively easy as he devotes his attention largely to one-half of the face. The sculptor in his work tries to preserve the entire face; he cuts it out of marble or stone, and portrays both sides, having simply one fixed form in view, possibly with the lips closed. But our work as dentists is more difficult than either. As I have said, the artist portrays but one side of the face, or possibly a fraction of the other; the sculptor portrays all of it, but in a given form and unchanging attitude, while the dentist must so arrange the face that it will be symmetrical, esthetic, beautiful, harmonious, corresponding with the great laws of nature in all the variations of facial expression as superinduced by muscular distortion and contortion. So we as dentists have a harder task to perform, although our efforts in this direction may not seem appreciated as much as they ought to be by the general public, when we render artistic scientific service our patrons liberally accord commendation.

Some time ago a prominent dentist made the statement that dental prosthesis, operative dentistry and dentistry as a whole had reached its highest point of perfection; that nothing further would be accomplished; that nothing new would come of it; that we had gotten up where there was a dead level. You will remember that when the Queen of Sheba reported to her people about the grandeur of the great Temple of Solomon, she said that "The half hath never been told." I want to say in compliment of all that which has already been written on this art phase, in paraphrasing the words of the Queen of Sheba, that we might well remark "the half has not yet been done." I do not believe we are stopping. I do not believe we have reached the highest point in this branch of our art. But I am convinced that we have just begun, and in the future our work will be recognized as truly scientific and humanitarian.

(To be continued.)

DENTAL THERAPEUTICS.

BY GEO. W. COOK, B. S., D. D. S., CHICAGO, ILL.
PROFESSOR OF BACTERIOLOGY AND PATHOLOGY, UNIVERSITY OF ILLINOIS; PROFESSOR OF ORAL SURGERY, DEARBORN MEDICAL COLLEGE.

In the discussion of the former pharmacological substances we have dealt very largely with a class of drugs designated as the metallic compounds,—and also the methane series. We will deal in this present chapter with some of the chemical compounds used in medicine and taken from the vegetable kingdom. A large number of vegetable compounds, and especially those classed as vegetable astringents, owe their principal action to tannic acid.

Tannic acid proper is derived very largely from the oak gall. This substance is classed chemically as an anhydride. The combination of tannic acid and gallic acid is a reversible chemical combination, or, in other words, tannic acid is easily decomposed into gallic acid somewhat in the same manner as the equation here represented:

Tannic acid. Gallic acid.

$$C_6H_2(OH)_3CO—O(OH)_2C_6H_2COOH+H_2O=2C_6H_2(OH_3)COOH$$

Gallic acid may be extracted from a large number of other chemical products, all of them to an extent resembling, in chemical behavior, that of tannic acid.

Many of the agents from which gallic acid is extracted are glucosides. These bodies precipitate albumen, gelatines and alkaloids, and sometimes will precipitate the salts of the heavy metals. Iron in this combination forms a bluish black or greenish black precipitate, and the iron test is the one that is sometimes adopted in determining the difference betwen some of the various forms of tannic acid.

The principal action of these chemical compounds is that of precipitating proteids. If a tannic acid solution is added to a neutral solution of albumen or gelatin a white precipitate is formed which is extremely soluble in water, and this precipitate can only be brought into solution again by adding an excess of albumen or gelatin solutions. The precipitate, however, can be brought back into solution by acetic or lactic acid and in alkaline solutions. Tannic acid solutions will precipitate pepsin and peptones in the

presence of acids, a rather peculiar chemical behavior of substance and one that can not be discussed at this time.

Gastric juice acts upon a precipitate of proteid tannate in a digestive manner, and the digestive ferments act upon this compound by dissolving it very much in the same way that is accomplished by the fermentation of fibrin. The tannic acid, however, is set free under the digestive process and again unites with some soluble proteid, the reaction continuing in this manner until all the hydrogen atoms have been dissipated in the alkaline or neutral ferments.

One of the principal uses that tannic acid has, and which is so universal, is that of applying it to animal tissue, an art that has been practiced for many centuries in the tanning of leather. Tannic acid when applied to tissues like that of the hides of animals precipitates proteids and the tissues become hard, tough, and tend to shrink together; and at the same time in the process of drying the skins of animals they are thoroughly soaked in solutions of tannic acid and when they become dry the fibrous structure of the tissue undergoes such changes as to make it quite impossible for the skin to putrefy.

Doubtless every one is familiar with the harsh, bitter, astringent taste produced by a solution of tannic acid. In the mouth it produces a feeling of dryness, with a roughness and stiffness of all the mucous surfaces the agent comes in contact with. This peculiar effect is due to the coagulation of the superficial layers of the epithelium, and without a doubt there is a contraction of the cells. It is especially true that it comes in contact with the connective tissue cells. If a solution of tannic acid is swallowed it causes a very deleterious effect on the lining of the stomach (only temporarily, however). This astringent effect in the stomach will many times cause vomiting, but as soon as this sensation disappears the stomach will immediately return to its normal condition.

It matters but little how strong or weak the solution may be when it is taken into the stomach, it combines with the proteids that it may come in contact with. But so long as the gastric juice remains acid it will interfere but little with digestion. Tannic acid when taken into the stomach and passing through the intestinal tract has an astringent property. Owing to the fact that tannic acid precipitates proteids, it might play an important role in the

intestinal tract in preventing fermentation, thus lessening the irritability of the mucous membrane of the intestine, and thereby removing certain local irritating processes, a condition frequent among a certain class of people. All of these pathological changes are more ofttimes the result of fermentation than from any other cause, therefore the putrefactive or fermentative condition which establishes putrefactive changes in the intestines might easily be handled in the judicious application of tannic acid.

Local applications of tannic acid to glandular tissue causes diminution in the secretion of the glands. This, in accordance with the above statements, is due to its effects on protoplasmia or its coagulating power. It was formerly thought by pharmacologists that tannic acid when applied on the surface would cause contraction of the blood vessels of the part to which it was applied. Rosenstirn carried on a series of experiments which seemed to disprove these former conceptions of its action. Heinz, who has done some more recent work upon this same point, found that tannic acid of a strength less than one-half of one per cent, when applied to the mesenteric vessels of the frog and rabbit, couses constriction of the vessels, when a stronger solution applied in the same manner at first causes contraction of the blood vessels, followed later by dilatation of the same. This same author observed further that the local effects of tannic acid lessened the movements of the leucocytes around the points where it was applied; it also prevented the blood cells from wandering through the walls of the capillaries.

If tannic acid comes in contact with blood in a test-tube it precipitates the albumen very quickly, and if this precipitate be injected intravenously there is usually formed an emboli. When any form of tannate is made alkaline it is believed that it completely loses its astringent properties. This is hardly true, however, inasmuch as there are some reasons for believing that the astringent property is only diminished under alkaline conditions rather than complete loss.

There has been considerable discussion as to what becomes of tannic acid in the body when taken internally in small portions. It may be eliminated by the bowels, but it has been shown, however, that this source of elimination is by no means certain, in fact it is quite uncertain as to whether at times any of the drug passes out of the body by this channel. It frequently happens, and I presume in

the majority of instances, that this agent is principally absorbed in lesser quantities and eliminated through the urinary tract. However, it may be stated that it is quite likely that not more than one per cent of tannic acid swallowed will reappear in the excretions of the body as tannic or gallic acid; the other per cent is undoubtedly completely oxidized in the tissue, for no traces are to be found.

Investigations have shown that after the administration of gallic or tannic acid they will reappear in the blood as gallic salts, and usually are detected by the iron salts in the blood, which produces a dark color. No evidence has been shown whether they appear in the blood as tannates or gallates; however, the latter is most likely the one, for the reason that this appears more frequently in the representation shown in vitro.

According to the observations of Harnack gallic acid in the urine will at times form pyrogallol, but this chemical product can not be produced in the intestinal tract by tannic acid. According to the observations already mentioned tannic acid does not exist in the tissues, only in the form we have just alluded to, or as gallate or tannate of soda, which, as we have previously stated, has but little if any astringent property. Therefore, according to the best observations that we have just alluded to, the actions of tannates or gallates are restricted solely to the point where they are applied.

Lewin's experiments showed that the elasticity of the frog's muscles are materially altered when tannic acid has been applied subcutaneously. Tannic acid is said to have very beneficial effect on lessening the albumen urea in certain forms of Bright's disease, but the experiments in this line are so inadequate as to make this assertion somewhat unreliable. It has also been stated that tannic acid will lessen the quantity of urine, but the probabilities are this statement is more or less obscured by error.

Gallic acid given by the mouth is absorbed and excreted most likely by the kidneys, but in all probabilities this agent disappears in the tissues by oxidation. Numerous preparations of this drug have been made into different forms of colloidial substances, which most likely is the most rational way to administer such a drug. It is slowly dissolved out of the colloidial mass, passing into the intestinal tract before much of the tannic acid is dissolved out in the stomach, thus giving the tannic acid a better effect on the intestinal tract.

(To be continued.)

OPERATIVE DENTISTRY.

Shop Talks.

BY R. B. TULLER, D. D. S.,
CLINICAL PROFESSOR OF OPERATIVE DENTISTRY, CHICAGO COLLEGE OF DENTAL SURGERY.

No. VII.

LINING CAVITIES FOR METALLIC FILLINGS.

The most thorough, conscientious, painstaking and skillful practitioners of dentistry know the difficulties of obtaining perfect results as concerns fillings of gold or amalgam that seal the cavity hermetically. Hermetically sealing means to make a filling that permits of no infiltration of moisture between it and the cavity walls. Operators classed as above will have, undoubtedly, a great measure of success because of their skill and a full and intelligent comprehension of the nature of the material used, and of how to manipulate it to obtain absolute contact to all the inequalities of the cavity walls and margins, so that the persistent moisture of the mouth can not get in after their work is finished.

But the average operator, capable in many respects, fails oftener in this particular than in any other work, and especially in the use of cohesive gold with its ever increasing tendencies, under manipulation, to resist the effort to adapt it.

If an operator is positive of his ability to seal the cavity he undertakes to fill with gold or amlagam, he would ignore any lining of other material; except possibly in some instances as a non-conductor of thermal changes in teeth liable to be sensitive to such changes after metallic fillings are inserted. His lining then would usually be limited to an area immediately covering the pulp. But the operator who may know that he is not sure in this work—who, perhaps, has lost some conceit in his ability through sad experience, and "chickens coming home," etc.—will do himself greater justice and patients better service if he will study and practice some method of cavity lining that is impervious to moisture. The manipulation of cohesive gold is the *bete noir* of many a well meaning operator;

but when it comes to plastic amalgam he feels pretty certain of his ability there to get perfect contact to cavity walls.

Yes, but amalgam should not be too plastic, too soft, with a surplus of mercury, for if so the filling fails to become sufficiently hard and in time shrinkage or change of shape occurs, leaving gaps between filling and tooth. Using amalgam as dry as it is possible to manipulate produces better fillings; but then comes the difficulty of adapting it perfectly to cavity walls. Comprehensive and painstaking effort is required.

A good test of one's ability in packing both gold and amalgam is to use a small but strong glass tube with an opening about an eighth of an inch in diameter. Plug the opening with plaster, leaving a pit or cavity which, when plaster is thoroughly dry, is to be filled. Wrap paper around the tube at this end to hide a vision of the cavity through the sides, and then fill as a cavity in a tooth would be filled, endeavoring to use the same manipulative care, no more, no less. When done remove the paper and observe through the glass what faults if any may be found in the contact. If the naked eye does not disclose much, try a powerful magnifier. Both materials, gold and amalgam, are likely to show defects. If they do not, the work has been well done; but the contrary will be the results in many instances, perhaps to the surprise of the operator, and especially as concerns the amalgam, considered so easy of manipulation.

Cavity lining material has a demand, as is evidenced by several preparations on the market. The claim for all is that when applied and allowed to harden they are unaffected by moisture. Such should be their quality, for while it is covered with the filling material proper, there may be, and probably is, exposure however minute at some or all of the margins, unless the application has been made so as not to come quite to the margins. This in fact is the usual way of application—leaving the marginal line uncovered. This, however, means that the filling material must surely make absolute contact there.

These so-called cavity linings are some sort of varnish, or the gums from which varnish is made, but in these preparations the gum or gums are dissolved in some highly volatile liquid like ether. When the cavity is coated the ether quickly evaporates and the lining is soon hard. Copal-ether varnish has been used a great

deal. Gum-copal, dissolved in ether until a thin varnish is obtained. This will thicken up in the bottle by the evaporation of the ether, and must frequently be thinned again, as a thick, sticky varnish *is not of use.* The thick layer would take a long time to harden and such a layer is not desired. On the contrary, a very thin layer. A thin application finds its way into every minute recess and into the tubuli of the dentine closing the same, and upon this quality rests the theory that the lining prevents further decay even with a filling that would be considered leaky without cavity lining.

All practitioners have occasion at various times to leave a little layer of affected dentine over a pulp rather than produce exposure, or get too close to it. Such a cavity thoroughly dehydrated, then preferably medicated, and dried out again, and then painted with the thin varnish, is pretty secure against further decay from any germs that remain. If they have not been rendered inert from the medication (germicide) they are safely buried in the layer of varnish.

Of the especial virtues of the lining materials on the market over that given above (which any dentist can quickly make for himself) I know nothing, but I doubt not they are efficient, since the aim has been to make them so as to fill our requirements, and if one is better than another it is in the more intelligent selection of a gum that more perfectly resists moisture. I have seen samples of some, holding two bits of glass together that have been continuously submerged in water for years without any apparent change.

But water is not saliva. The conditions were not those of the mouth. Saliva will unquestionably digest some of these resinous gums, and bearing that in mind, any exposure of this kind of lining should perhaps be guarded against, at least should not be painted in profusion out over the margins of a cavity. Keep rather within the line. The opinion of the writer is, however, that the exceedongly thin line of exposure of thin cavity lining around the edge of fillings, while possibly susceptible to some extent to the digestive saliva, a condition of self limitation would soon be established. Anyway, penetration of moisture, first disintegrating the lining, would be an exceedingly slow process, and much to be desired over the usual leak of faulty fillings.

The resinous substances known as amber would serve to supply resisting qualities equal to if not better than any other gum capable

of being prepared for cavity lining, and such a lining is being exploited, and the writer is using it, but not long enough to make any report. It is exploited by a dentist who has had long years of practice and experience and who certainly knows what essentials are required.

Aside from these resinous linings, oxy-phosphate of zinc is used and has a place and a value. When gold is to follow, the usual practice is to smear a plentiful layer over the walls, or even fill the cavity in some instances, removing after hardening all that is not desired. Deep undercuts that can not be properly filled with gold are lined or filled with cement and followed with gold.

In some instances where a layer of cement is desirable in the bottom of a cavity, a good sized pellet of gold is pressed carefully into the cement, spreading it toward the walls, this providing after cement has set a good starter for the gold that is to follow.

There are many cases where a lining of cement is desirable when amalgam is to follow, and especially where the loss of dentine leaves a section of translucent enamel, which would show blue with the amalgam immediately in contact. One very satisfactory way to proceed is to cover the cavity walls with cement and then having amalgam mixed and ready crowd it in in a way to force out the surplus cement and finally clearing the margins of cement so that the finished filling shows no line of cement exposed. This might not inaptly be called an amalgam inlay, and would not be a bad idea to apply in nearly all cases where amalgam is to be used. If painstakingly done, the method is ideal. It should be done with some rapidity to be able to force out surplus cement, and especially at obscure margins before crystallization begins.

There may be some instances where a resinous or varnish lining precedes the cement. The pain that sometimes obtains for a while from cement in contact with sensitive dentine may be avoided by previously using resinous lining.

(To be continued.)

ORIGINAL CONTRIBUTIONS

TOOTHSOME TOPICS.

BY R. B. TULLER.

Who am Oi?

Well, Oi'll tell ye who Oi am;

Oi'm Pat Foggarty av th' rollin' mills, so Oi am.

Maybe ye know me?—er know av me, as Patsy th' Paster?

Well thin, Oi'll tell ye roight now, that when it comes to sthandin' up befront av a man an' takin' me punishment—ef he can give anny,—begorra! Oi'll not hisitate fer twinty rounds.

No, Oi'm not egzactly a profishinal, but Oi do be a purty good man fer an amichure.

But, say, Docther, Oi haven't th' nerve av a rabbit whin it comes t' havin' annythin' done t' me teeth; an' this pullin' bizness, say, Pat Foggarty ud rather get knocked out in th' ring, loike a man.

Ef Oi cud a had ye last noight, Docthor, whin this bloody tooth wus doin' a r-rag-toime stoont, an' me pacin' ut aff up an' down the flure, Oi cud aisy have let ye put th' tongs on. My? but 'twas crazy Oi was.

But now, beside akin', it do be sore; an' the face av me do look loike Oi had been up agin a betther man.

Begorra! Doctor, Oi can't lave ye touch th' thing. Oi'm as wake as a cat, so Oi am. Oh me, Oh my!

Do ye be afther givin' annythin', Docther, that wud aise ut anny? Well, niver moind; Oi wouldn't take anny av them annystetics. Oi'd be afeard Oi wouldn't wake; and thin 'twud be me f'r a ride on me back out to th' cimutery, an' th' byes schatterin' posies on me grave. Not anny fer me, at prisent.

Flowers on a man's grave may be a fine thing, but at the prisent moment they don't look good to me. Flowers is all roight when yer time comes; but afther all, Docther, ut don't count much t' th' dayceased. Oi'll tell ye, Oi'm wan av thim fellahs that ud rather have wan little posey schattered over me grave whoile Oi'm livin', than a wagon load whin Oi'm dead an' not realizin'.

Oh me, Oh my! Oi wish—say, Docther, maybe ye have a bit av stimoolant av some kind that ud brace me up.

Ah, ha! Yer a foine bye, docther. That's th' stuff! Oi'll take a good swalley an' *thin*—an' thin Oi'll—Oi'll wait till Oi feel ut workin' a bit.

Yes sor, docther, on th' heavy weight class Oi'm th' champeen av South Chicago, an' uts moighty few profishinals that wants t' stand up befront av Patsey the Paster. They've heard av 'im.

Didn't yez hear how Oi done up Tom Padden? Well, 'twas in th' papers last week wid me pictur. Ut was a pache av a foight, so it was.

Padden kem up fr'm Pittsburg av a purpose to lick me; and afther th' praliminaries we slipped over into Injianny on th' q. t., wid about fifty frinds on ache side, an' brought aff th' mill; seventeen rounds—bare knuckles—an' thin made our skidoo before anny-one caught on to interfere.

Padden brought up a couple av hundred av the "long green" that he wanted t' put into a multiplyin' machine, he sez, hearin' they had some in Chicago, that ud work it over into about eight hundred or a t'ousand to take back wid him.

"We have th' ma—" Gee! Docther, lave—lave me have anither dhrink av that whiskey. Ah! that's th' stuff!—that's th' stuff!

"We have the machine," sez Oi, but take me wurrud f'r ut, ut will roll yer money up into a foine wad an' tuck ut into the jeans av Pat Foggarty; bein' multiplied, Oi sez, "by the conthributions av yer frinds."

"Not on yer loife! not on yer loife" he sez. "Oi kem up afther *your* wad an' all yer frinds want t' put up wid it. Oi need th' dough," he sez, "an' 'tis me will take ut," he sez.

"Ye will?" sez Oi. "Well, ef Oi shud be taken, av a sudden, wid paralasus," Oi sez, "maybe ye moight; but," Oi sez, "Oi don't feel ut comin' on anny."

"Ye don't?" sez he. "Well, uts me that's expictin' t' give ye th' sthroke," he sez. Th' nerve av 'm!

"Oh, ho," Oi sez. "put up yer money, man, an' don't talk so much wid yer gub. Ye'll look good to me," Oi sez, "when yer money is up, and we air wance in th' ring. Ye won't talk so much thin."

"Put up your own money," he sez, "moine is ready."

'Twas thin we ar-ranged th' praliminaries, an' the bettin' began. Mulcahy, th' superintendent av th' rollin' gang, was selicted as the stakeholder an' Jamsey King wus to be th' referee.

Now, ye see, Doc, Oi have th' sand in me—ixcipt f'r this bloody tooth bizness. Oi had no fear, sor, to stand befront av that man;

an' he's no joovenile. Oi am not a feared, sor, t' sthand befront av anny dom man an'—houldin' me face up t' get jammed—ef he can do ut— but, be th' houly saints! Oi'm ascarred, so Oi am, av a little dom Dutch monkey loike you—Doc Schnapp, is it'?—when ye come at me wid thim pinchers.

Naw, Oi'm not ready yet. Stand aff! Yis, sure Oi know Oi'm takin' yer toime, but begorra! ye have got to get me in chune first. Lave me have wan more swig. There, man, that's good. Oi'm gettin' warmed up *some.*

Well, sor, as Oi was tellin' ye, whin Oi got tru wid that Padden, though he stood up manful fer seventeen rounds, he looked loike he had mixed up wid a buzz saw aided and abetted by a ten ton thrip hammer, so he did. Sure Oi got punished a bit mysilf—ut wouldn't be a fight widout; but be jabbers! Oi was able t' walk off wid the byes; while his frinds rinted a cart fer him. That's what Oi done to him, Doc.

Fer what did Oi come here, are ye axin'? Well, now, don't get impatient. Oi kem here, Doc, to—to get rid av—av me throubles. They'r abatin' some. Ef Oi had wan more—Ye haven't anny more? Sure ye ought to be betther provided. That's only a stharter.

Me do what? Lay me head back? Lay nawthin'! Not on yer loife! Ut ain't *you* that can lay me head back. What do yez think yer goin' t' do? Pull me tooth? *Pull me tooth? Well,* Oi think Oi have a movin' pictur av ye doin' ut. *You* pull me tooth! Say, Mr. Doc Schnapp, fer what air thim letters D. D. S. behind yer name on th' dhoor?

An' do ye think ye'll have a schnapp pullin' *my* teeth? G'wan ye little weezened up weenywurster! Oid loike t' see th' dom Dutch son-av-a-gun—D. D. S.—that cud pull *my* tooth.

Sthand aside! ye pimply faced monkey! till Oi get away fr'm yez, before Oi push in yer probasis! Skidoo into yer hole, an' lave me way clear!—Seventeen plus four, an' two fer postage. Sauvey? Ef ye were my size Oi'd smash ye wan annyway.

'Tis half a moind I have t' wreck yer shebang an' chuck ye tru th' windy. Pull a tooth fer th' man that licked Tom Padden! G'wan before Oi knock a hole tru ye. Out av me way! Whee! Whoop! Lave me give ye wan left-handed swat. Whee! Call the p'lice an' be dommed. Oi can lick th' hull foorce. Whee! Hooroo! Pull a tooth will ye fer Pat Foggarty? *Not-on-yer*-LOIFE!

(Toothsome Topics every month.)

NOTICES OF MEETINGS

NATIONAL SOCIETY MEETINGS.

American Society of Orthodontists, New York, December, 1906.

Institute of Dental Pedagogics, Chicago, December 27, 28, 29.

National Association of Dental Examiners, Atlanta, Ga., September 14, 15, 17.

National Dental Association, Atlanta, Ga., September 18.

NATIONAL DENTAL ASSOCIATION.

The tenth annual session of the National Dental Association will be held in Atlanta, Georgia, commencing Tuesday, September, 18, 1906.

The New Kimball House has been selected by the local committee of arrangements as headquarters, where all general sessions of the association and of the sections will be held. The rates per day at the New Kimball House will be, European plan from $1.50 to $4.00; American plan, $3.00 to $6.00, governed by choice of rooms.

The usual railroad rate of one and one-third fare for the round trip, certificate plan, will be arranged for, and definite dates and particulars given later by Dr. J. D. Patterson, chairman of the executive committee.

The general officers and those of the sections, as well as the committee chairmen and their members, have been working hard to provide an interesting and instructive program and a large attendance is expected.

SECTION 1.

Section 1 presents the following program of papers for consideration:

"The Present Status of Porcelain Inlays".....
.....John Quincy Byram, Indianapolis
"Orthodontia".....Richard Summa, St. Louis
"A Phase of Art in Prosthesis".....Geo. H. Wilson, Cleveland
"Porcelain".....C. N. Thompson, Chicago
"Setting Crowns and Bridges with Gutta Percha".....
.....L. G. Noel, Nashville, Tenn.

"Orthodontia".....Victor H. Jackson, New York
"Orthodontia".....Calvin S. Case, Chicago
"The Inevitable Outcome of Crown and Bridge Work".....
.....Parmly Brown, New York City
"General Practice".....W. Leon Ellerbrook, Salt Lake City
B. L. Thorpe, Chairman, St. Louis, Mo.
D. O. M. LeCron, Secretary, St. Louis, Mo.

SECTION II.

Section 2 presents the following program of papers for consideration:

"Manual Training an Essential to Dental Education".....
.....Burton Lee Thorpe, St. Louis
Subject not given.....Geo. S. Vann, Gadsden, Ala.
Subject not given.....Clarence J. Grieves, Baltimore, Md.
"Prosthetic Nomenclature".....Geo. H. Wilson, Cleveland
"The Nomenclature of Materia Medica and Therapeutics"....
.....A. H. Peck, Chicago
'Operative Dentistry".....H. H. Johnson, Macon, Ga.
Howard E. Roberts, Chairman, Philadelphia, Pa.
C. S. Butler, Secretary, Buffalo, N. Y.

In one of the general sessions, Charles McManus, Hartford, Conn., chairman committee on history, will present an illustrated paper on "The Remarkable History of the Profession and the Splendid Character of the Men of the Past Who Helped to Build It Up." A. W. Harlan, New York City, will present a paper on "The Blue Light and Heat as Therapeutic Agents."

The committee on oral hygiene promise an interesting summary of their work, illustrated methods of teaching the science to both dentists and laymen, essays, resolutions and the report of the committee.

J. P. Corley, Chairman, Greensboro, Ala.
F. W. Stiff, Secretary, Richmond, Va.

We are promised a large and interesting list of clinics, and they will be held in one of the dental college buildings. Announcement of the list and where they will be given will appear later.

Thomas P. Hinman, Chairman, Atlanta, Ga.
C. L. Alexander, Secretary, Charlotte, N. C.

It is the earnest desire that there shall be a large attendance of

members and delegates, so that the committee to devise ways and means to own and control a dental journal may feel encouraged to launch such a scheme as will at once meet approval and hearty support, and the association has members enough to guarantee the project.

Many other features for a new era of success in the National Dental Association can be mapped out at the Atlanta meeting if only we have a sufficiently large and enthusiastic gathering of the members of the profession to make it appear worth while.

M. F. Finley, President, Washington, D. C.

July 19, 1906.

DEAR MR. EDITOR:

As requested, I am sending you an account of our outdoor meeting and hope that you will find space for same in your next issue. I am also sending you a list of our officers, our plan of organization being somewhat unique, and having never seen this plan published before, I am taking the liberty of explaining same to you. The enclosed card will explain itself. We organized in March, 1906, and elected officers for the entire year, each set of officers holding office for one month. These officers get up the program for their meeting; a meeting is held every month; clinics four times per year. This plan works admirably and I would like to see it adopted in more local societies. Yours truly, H. R. THILL.

On July 12th an all day outing was held by the Dubuque (Iowa) and Jo Daviess County (Ill.) dental societies at Camp Nineteen. the scene of the festivities being twenty miles south of Dubuque and seven miles from Galena, the historic home of General U. S. Grant.

The occasion was noteworthy for the presence of Dr. G. V. Black, who read a paper in his inimitable manner. He dwelt at some length upon oral surgery in its different stakes; also spoke of tumors, aneurisms, necrosis, caries, alveolar abscesses, concers, and fractures of the jaw. He gave a lengthy description, diagnosis and treatment of each. He also spoke of different anesthetics, local and general. The paper was discussed thoroughly by members of both societies.

The entire party went to the camp by launch, and a more delightful ride was never taken on the Mississippi river. The scenery along the river is unexcelled, nature in the height of her glory.

Dr. Black was met at Galena Junction, where he had come from Chicago, and was taken to the camp by a launch. Arriving at the camp, various amusements were enjoyed before luncheon, and after that Dr. Black read his paper and was presented with a handsome bouquet of American Beauties by the Dubuque dentists.

Bowling, quoit pitching, dancing, a baseball game, fishing and rifle shooting were indulged in.

Those from Jo Daviess county were Doctors Creswell, Kitloe, Howard, Wonderly, H. N. Stryker, W. A. Stevenson and Dr. Stryker Sr.; Mesdames Kitloe, Stevenson, Howard, Stryker from Galena; Doctors Miller and Prickett, from Warren; Russel and Plankington, from Stockton; Dr. Rogers and wife, from Scarles Mound; Dr. A. R. Speer, from Hanover.

From Dubuque were Doctors Peterson, Haggerty, Thill, Heisey, Taylor, Sweeney, Maguire, McParland, Knoll, Ayers, Meshinzer, Sheridan, Sohl, Clark and Mullin; Miss Peterson, Miss Della Thill, Mrs. H. R. Thill, Mrs. Sohl, Miss Knoll, Miss Long, Miss Rowan.

TEXAS STATE DENTAL ASSOCIATION.

The Texas State Dental Association held a most successful meeting at Galveston, June 14, 15 and 16, with one hundred and fifty members in attendance.

Officers elected for ensuing year: Dr. R. D. Griffis, Paris, president; Dr. A. A. Dyer, Galveston, first vice-president; Dr. C. H. Edge, Houston, second vice-president; Dr. G. W. Staples, Dallas, secretary and treasurer; Dr. A. F. Sonntag, Waco, Curator.

Executive Committee: Dr. C. J. Smith, Austin, chairman; Dr. C. L. Watson, Mexia; Dr. J. W. Combs, New Braunfels.

THE MICHIGAN STATE DENTAL ASSOCIATION.

The Semi-Centennial Convention of the Michigan State Dental Association was held at Detroit, Mich., July 9, 10, 11, 1906. The following officers were elected for the ensuing year: A. L. Le Gro, Three Rivers, president; E. B. Spalding, Detroit, vice-president; L. N. Hogarth, Detroit, secretary; J. Ward House, Grand Rapids, treasurer; George Zederbaum, Charlotte, to fill vacancy on the board of trustees.

INDIANA STATE DENTAL ASSOCIATION.

The forty-second annual meeting of the Indiana State Dental Association was held at West Baden, June 26, 27 and 28. The executive committee had prepared a good program, both in the way of papers and clinics. Notwithstanding the extreme hot weather, everyone was thoroughly alive to the occasion, both in spirit of good fellowship and West Baden water.

Dr. John Quincy Byram was the president, and as a presiding officer, was as skillful in that capacity as he usually is in porcelain work. Everything went off as well as could be expected. There was some little confusion among some of the members because it was impossible to get a preacher to open the meeting with prayer, but this did not delay John in putting everybody to work in reading papers and discussing them.

Dr. A. R. Ross, of Lafayette, Ind., read an excellent paper on "Bacterial Effects of Certain Mouth Washes." Dr. Ross' paper was one of unusual merit and it would pay any one to thoroughly study its contents when published.

Another paper of unusual quality, both from a literary and ethical standpoint, was read by H. C. Sexton, of Shelbyville, Ind., entitled "A Plea for the Incipient Quack." Dr. Sexton is a gentleman of unusual literary quality and he handled his subject in the most interesting and excellent style. Dr. H. M. Thompson, of Indianapolis, opened the discussion on this paper in a very witty and interesting way, and in his discussion he not only made very humorous allusions to certain points, but his argument contained some excellent philosophy on ethics. Dr. F. R. Henshaw, of Middletown, followed in the discussion and Teddy, in his usual way, showed himself not only a thinker but a good debator.

On Tuesday evening, June 26, Dr. L. P. Bethel, of Columbus, Ohio, read a splendid paper on "The Importance of Early Attention to the Teeth of Children," showing stereopticon slides which illustrated many of the factors that go to make or mar the future organs of mastication. Dr. Bethel, in his usual manner, made some excellent points in his paper that will bear thoughtful study of its contents when published.

Dr. R. C. Jackson, of Indianapolis, opened the discussion, leaving a profound impression on the audience of what a young man can

do if he but applies himself to the study of the various phases of his calling.

There was one face missed at the meeting that was down for a discussion on this paper and that was Alex Jamison, of Indianapolis. Alex is a kind of a Socrates down in that neck of the woods and most naturally was very much missed.

On Wednesday morning, June 27, a paper was read by R. I. Blakeman, of Indianapolis, on "Splints for the Anterior Inferior Teeth." The essayist gave a very interesting paper on the methods which he had employed on the fixation of the lower central incisors when they have become loosened in the alveolus. Bob is not only a good mechanic, but he can tell you in a very nice way how to do an operation. Just about the closing of the reading of this paper there was a little disturbance by the appearance of Dr. Geo. E. Hunt, who quietly announced that he had lost one of his freckles, and one only needed to look George in the face to see that some grave accident had befallen our loving brother. After some search and inquiry as to the probable location where the freckle had dropped, it was finally ascertained that it must either have been lost in the bathroom at the French Lick hotel or in the swimming pool at the West Baden hotel. George said that if it was lost in either of those places it would be impossible to find it, because it split in two before it came off and that the pieces might be resting in his appendix vermiformis. It then dawned upon every one that George had been in the hands of some of the artists on glass blowing, and that this so-called freckle was nothing more than a porcelain inlay.

The moral to this story is, "Don't go horseback riding until you are positively sure that your inlays are well anchored in their position."

There is probably one other place you could go to a state dental association meeting that is half as good as the one in Indiana, and that would be to the Kentucky state meeting. Either one of these places they take care of you in fine shape.

There are some awfully nice young men growing up in the state of Indiana in the dental profession; Carl Lucas and Earl Kibler, for instance, both of whom have been well trained by Byram and Hunt, and Billy Hacker also, who is a chip off the old block of Tom Hacker. Billy is really more alert than his father, inasmuch as Billy said he would not stand on a cat's tail for half an hour

without knowing what was the matter with the cat; but of course you could not expect any better of Tom under the circumstances, because he was drinking buttermilk and looking at a country lassie at the same time. So how in the world would a cat's squalls attract a man under such circumstances? Really I think Tom is to be excused.

On Wednesday evening Mr. Tom Taggart, the noted democratic leader in Indiana, and the proprietor of the French Lick Hotel, gave a very enjoyable entertainment in the hotel parlors to the Indiana State Dental Association, which consisted of a fine musical program, recitations, dancing and refreshments. Mr. Taggart is certainly a delightful host and does much to entertain his guests of the hotel. Not only is he a great politician, but he is also a great hotel proprietor. Mr. Taggart did much in the entertainment of the members and guests of the Indiana State Dental Association.

The French Lick Hotel stands at the foot of the highest hill in the state of Indiana. The top of this peak can be reached by horseback or carriage, and from there one is able to overlook the country for twenty-five or thirty miles. At the top of this high eminence there is a house which contains all the refreshments, both to eat and drink, that anyone need want. Even Charley Redmond, of Peru, found sufficient delicacies to appease his frail appetite. All the fellows in Indiana are fearful of Charlie's health; he has now swelled up to such a diminutive size that he only weighs two hundred and eighty-five pounds. Poor Charlie, it will be a great loss when he completely dries up; the atmosphere will certainly feel a great vacancy. Charlie's good humor and ability to dance is in perfect accord with his size. Hunt says that he is going to drive Charlie and Teddy Henshaw double next year, as soon as he can get them both city broke. Any one who wants to spend a few days at a state dental meeting can do no better than to go to the Indiana state meeting, and if you go once you will acquire a habit like Geo. West. I think George would go if he lost every one of his freckles.

G. W. C.

MICHIGAN STATE DENTAL ASSOCIATION.

The Michigan Dental Association at its fiftieth annual convention elected the following officers: President, Dr. Albert L. DeGro, of Three Rivers; vice-president, Dr. E. B. Spalding, of Detroit; secretary, Dr. L. M. Hogarth, of Detroit; treasurer, Dr. J. Ward House, of Grand Rapids.

MINNESOTA STATE DENTAL ASSOCIATION.

The Minnesota State Dental Association held its annual meeting July 11 to 13 and following are results of election of officers: Dr. R. W. Berthel, of St. Paul, was elected president; A. C. Rosenquist, of St. Peter, was chosen for vice-president; F. E. Cobb, of Minneapolis, secretary, and H. M. Reid, of Minneapolis, treasurer. The next convention will be held at St. Paul.

INDIANA STATE DENTAL ASSOCIATION.

The following officers were elected at the recent meeting of the above society: President, A. T. White, New Castle; vice-president, R. A. Adams, Clinton; secretary, D. E. Lucas, Indianapolis; treasurer, C. W. Throop, Muncie. Executive committee, P. P. Chadwick, Rushville; supervisor of clinics, C. A. Barnhill, Indianapolis; trustees, S. W. Van Osdol, Mitchell; O. U. King, Huntingdon, and B. F. Williams, Terre Haute. Indianapolis was selected as the place for the next annual meeting.

SOUTH DAKOTA DENTAL SOCIETY.

One of the most pleasant and profitable meetings of the South Dakota Dental Society was brought to a close June 21 at Vermillion. The election of officers for the ensuing year resulted in naming Dr. E. S. O'Neill, of Canton, president; Dr. A. D. Donahue, of Sioux Falls, vice-president; Dr. Ferdinand Brown, of Sioux Falls, secretary; Dr. J. W. Smoots, of Bressford, treasurer; Dr. C. W. Stutenroth, of Watertown, librarian, and Drs. C. W. Collins, of Vermillion, and E. H. Wilson, of Miller, candidate for the state board. Sioux Falls was chosen as the place for holding the convention next year.

CONNECTICUT ODONTOLOGICAL SOCIETY.

The sixth annual meeting of the Connecticut Odontological Society was held at the Hill Homestead, Savin Rock. The meeting

was called to order by President E. S. Warner, of Bridgeport. Considerable important business was transacted, after which the election of officers was held, resulting as follows: President, Dr. A. H. Wilie, Hartford; vice-president, Dr. M. C. Hitchcock, Ansonia; secretary, G. H. Neubauer, Bridgeport; treasurer, Dr. F. L. Uhle, Bridgeport; executive committee, Dr. F. C. Jackson, Norwich, Dr. C. A. Ryder, Bridgeport, and Dr. G. H. Henry, Hartford.

PENNSYLVANIA DENTAL SOCIETY.

A very successful meeting was held at the Bellevue-Stratford, Philadelphia, and the following were elected for the ensuing year: President, J. T. Lippincott, of Philadelphia; first vice-president, P. K. Filbert, Pottsville; second vice-president, C. B. Bratt, Allegheny; recording secretary, L. M. Weaver, Philadelphia; corresponding secretary, V. S. Jones, Bethlehem; treasurer, W. A. Spencer, Carbondale; censors, C. C. Walker, Williamsport; E. W. Bohn, Reading; W. H. Fundenburg, Pittsburg; W. C. Scott, Lansford; J. F. Kingsley, Towanda.

RESOLUTION.

Whereas, The hand of Providence has removed from us our honored member and active co-worker, Dr. Charles C. Chittenden, and

Whereas, In his decease we have suffered the loss of a member who had an active interest in this society and who had the welfare of the entire profession at heart, therefore be it

Resolved, That we, the members of the Southern Wisconsin Dental Association in annual session in Milwaukee this 31st day of May, 1906, express to the members of his bereaved family our sympathy and sorrow in their affliction and assure them of our admiration for his high personal and professional qualities, and

Resolved, That these resolutions be spread upon the records of this Association, a copy sent to the family of our departed member and copies sent to the dental journals for publication.

E. J. HART,
P. B. WRIGHT,
CHAS. L. BABCOCK,
Committee.

ABSTRACTS AND SELECTIONS

THE TECHNIQUE OF MAKING A PORCELAIN INLAY.

BY G. F. WOODBURY, D. D. S., CLEVELAND, OHIO.

I have tried to make this paper practical, and have gone into details that the experienced porcelain worker may consider unessential; but this paper is for the inexperienced operator—the beginner—especially for the one that has not begun, and I have labored to make plain the steps in the construction of a porcelain inlay.

I make no claims to originality, but present the subject as I practice it in my office. Many things have not been touched on that have an important bearing on porcelain inlays, because they do not directly relate to the subject presented in this paper. The various methods used for the same purpose have been ignored, because, for me, the ones presented are the most satisfactory. The presentation of other methods are left to those taking part in the discussion.

In making a porcelain inlay it can not be said, as it is of a gold filling, that when the cavity has been properly prepared that the foundation is laid for a successful operation. While the cavity form has much to do with the success of a porcelain inlay, it is not the most important part. Indeed, it is impossible to say which is the most important part of the operation. Essential as the formation of the cavity is, I do not deem it necessary to take the time to go into the detail of its construction, because last month Dr. Kenyon gave you the cardinal points in cavity preparation for porcelain inlays, which I approve and follow, except in a few minor details. But before dismissing the subject of cavity preparation I wish to lay before you this fact: Porcelain has not come to stay, if you depend on the cement to keep it in the cavity; the cavity must have a broad, well-defined seat, not for the convenience of guiding the inlay to place when cementing it in, but for the purpose of providing adequate resistance against the stress of mastication.

Nor will it be to our advantage at this time to discuss in any way

the relative values of high and low fusion porcelain, the use of the pyrometer or where porcelain is indicated, but confine ourselves wholly to the technique of making a porcelain inlay.

If we are to consider consecutively the technique of the operation we must take as the first step the matter of separation. If you think it requires more space for the placing of a porcelain inlay than for the insertion of a gold filling, you are in error, for it is only necessary to have the platinum extend over the labial surface (if the inlay is to be inserted from the lingual side) the width of the space between the teeth; all that is required is to have the matrix extend beyond the edge of the cavity, so as to have a well-defined margin. But if it is a cavity involving the incisal surface, the matrix can have wider margins, although it is not necessary.

That we may get a better understanding of how to construct an inlay let us consider a definite cavity, one involving the approximal and incisal surfaces of an upper central incisor.

TAKING THE IMPRESSION.

Having gained sufficient space and prepared the cavity, the next step is to obtain an impression, for I am convinced, after repeated failures to procure a good matrix, that it is necessary to have a cement impression of the cavity, not for the purpose of swedging the matrix, but for the convenience of roughly shaping the platinum to the cavity outline. To obtain this cement impression I place a napkin in the mouth so as to exclude the moisture, wipe out the cavity with cotton, mix the cement quite thick, take it between the thumb and fingers and make it into a ball, then roll it in talcum powder to prevent it adhering to the cavity walls. It is now carried to the tooth and worked into the cavity. When the cement is hard, trim away the excess on the labial portion to the margin of the cavity. Then, with a little pressure, the impression will be easily removed. For the convenience of holding the impression it is fastened to a piece of modeling compound. Now place a piece of platinum over the impression and a piece of wet spunk over this, and with a suitable instrument work it down till it gives a fair outline.

I am sure you will readily see the advantage of the impression; and you must acknowledge that it is easier to form the platinum over a rounded surface than it is to force it into a hole. It takes time, however, to do this, but in the end it saves time, prevents punctures,

eliminates expletives and enables you to get a better matrix, because there are fewer folds to burnish out. And when the cavity extends to the gum margin at the gingivae, you can trim and bend your matrix so it will readily slip under the gum.

OBTAINING THE MATRIX.

We now take up the most difficult part of the operation—to obtain an accurate matrix. You must be equipped with suitable instruments and fortified with an abundance of patience. After your matrix has been outlined on your cement impression, place it in the cavity, working it to place as near as possible; then use small pieces of wet spunk, filling the matrix, and with a suitable instrument force to place. When it is firmly seated, the edges of platinum can be pressed down with the finger or a burnisher. Now remove the spunk, and if the matrix is well in place put a piece of linen tape wide enough to entirely cover it, and burnish your margins. If your cavity has been formed with its walls at right angles to each other, it will be necessary to have an instrument that will adapt the platinum to these angles. For this purpose I made some instruments, the only original thing I have to present, except the use of the tape for forcing the inlay to place when cementing it in. This will be spoken of later.

The instruments are made by soldering a piece of pure gold to an excavator handle, suitably bent, and shaped as you find it necessary. The ones used in adapting the matrix to the angles are inverted pyramid shape. Hold the matrix in place by a burnisher and use an inverted pyramid instrument to press the platinum into the seat and labial resistance groove. The matrix may be removed and annealed, preferably in the furnace, before the last burnishing. When the matrix is as good as you think you can get it, take a piece of gum camphor a little larger than the cavity and force it into the matrix and burnish toward the margins, using considerable pressure. You can now use no little force to dislodge the matrix without distorting it. Having removed the matrix with the gum camphor in it, place it on anything that will support it (I use an inverted glass salt dish), place a drop of alcohol on the camphor and touch a lighted match to it. In a few seconds all trace of the camphor is gone and your matrix is clean and bright. If any blood has got on the matrix there will be a black stain left, but do not try to remove this—it will disappear with the first baking and not injure the inlay.

SELECTION OF SHADES.

We have now come to the part in the operation that requires an artist's eye, aided by a good light—the selection of shades. It is important to make the selections before placing the rubber dam, if you use it, while preparing the cavity. It is necessary to use two, and sometimes three, shades in such cases as we have selected. First, draw a diagram of the tooth. Now take your shade guide and select the shade at the upper portion of the cavity; it is B; mark this on your diagram. Now determine how far this shade extends, and draw a line on your chart. Follow this plan until you have completed the selections. Dentin is almost always a shade of yellow; determine whether this is light or dark, and note this on your chart also.

We are now ready for the furnace. Opaque lining is used in the first baking. This "lining" is very high fusing and serves two purposes; one to control the shadow and the other to keep the matrix from warping. Hold the matrix with suitable lock-pliers, taking hold of it where it will be least liable to bend, and place the lining in the matrix; absorb the excess moisture with white blotting paper. Jar the pliers to settle the body into the matrix. Do not allow the porcelain to come to the margins. We are now ready for the first baking. If there is a puncture in the matrix there will be no harm unless it is on the margin, then it will be best to get a new matrix. Do not place anything over the opening—the "lining" will not go through. Cut the porcelain where there is much bulk, to prevent it drawing the matrix when the porcelain shrinks in baking.

BAKING.

In baking the inlay I consider it necessary to rest the matrix on a bed of powdered silex instead of on a bare slab. This is a reasonable conclusion because it is better to have the entire surface of the matrix supported than to have it rest on two or three points. This will prevent any change in the matrix when the platinum is at an intense heat and the bulk of porcelain weighing down. This is, I consider, an indispensable precaution if you want good margins.

It is not necessary to replace the matrix in the cavity and burnish after first or subsequent bakings. The lining body should be baked to a full glaze. Next the foundation body is added; build it out so as to reproduce the dentin. Fuse this to a slight glaze. Now we are ready for the enamel bodies. First, arrange the porcelain on

a glass slab of generous size, so the shades can be kept separate. This should be done in the order in which they are placed in the matrix. Place the bottle showing the letter back on each portion. Make the arrangement in the same order each time, then you will not get confused in your shades. Place before you the chart made when you took the shades as a guide in blending the colors. At this point in the procedure you are called on for something more than the skill of a mechanic; it is the place to show how much of an artist you are. The matrix has now been well supported by the "lining" and foundation body, so there is little danger of distorting it. But even so, do not use too much body at a time in order to hasten the operation. It is more profitable to make a good inlay in an hour than a poor one in thirty minutes. In applying your shades, start at the upper part; do not use too much porcelain nor build it down too far. Then add a little of the next shade and a smaller portion of the next shade at the incisal edge. Clear your margins with a brush; fuse to a full glaze. Now the incisal edge is well protected. For the next baking a larger quantity of body can be added. Watch the blending of the shades. Take particular care to keep the porcelain body from overlapping the margins so as not to form a feather edge. After the final baking allow the piece to cool off gradually in the furnace, in order to temper the porcelain. To my mind, the arrangement of the porcelain bodies as used here is the only scientific way to construct an inlay. Here we have three distinct bodies. Each has a different fusing point. The first, opaque body, 2,300°; next, foundation body, 2,210°, and the last, enamel body, 2,080°. By this arrangement it will be apparent to you that the last baking will not disturb the first body used. But when you use throughout your inlay that has one fusing point and only biscuit the first part and glaze the last, I do not see why there may not be some change, and draw the matrix out of shape.

Before removing the matrix place it in the cavity and see if you have the right contour. If it is correct, strip the platinum from the inlay by first pulling it back from the edges and carefully working it off.

Now comes the most exquisite time in the operation. You feel as if you had heart trouble—a "fluctuating fever"; your temperature is up; now down. No doubt the sensation is like that experienced by the speculator when playing the market and has staked his last dollar on the next quotation, and it is to make his fortune or bring his ruin.

Will the margins be good? The color? Whew! The patient holds a towel so as to catch the inlay if it drops, and with thumping heart and trembling hand you slip the inlay into the cavity. The shade is fine! The margins excellent! You are about to give a war-whoop, when you remember you are a dignified professional man. The desire is strong, however, to go into the laboratory and execute a jig. But there is a letting down; you feel as if you had awakened from a delightful dream and reach the point where you realize it is time to get the inlay ready to cement in. First it must be etched. Take a piece of base-plate wax and shape it into a cone; then warm the apex and imbed your inlay. Be sure the margins are covered with wax, and then apply hyrofluoric acid with a piece of wood. Cover the surface thoroughly and let it stand two or three minutes, then remove the acid with water and a brush. After removing the inlay from the wax, put a little alcohol on it and use a small brush and thoroughly remove all white powder. This is important!

If all the other steps in the operation have been well executed, the inlay may be spoiled in cementing it in.

CEMENTING THE INLAY.

I have never found it necessary to use more than one shade of cement. I have used "Ames' pearl gray" and "Harvard special" (light yellow), but these shades are almost identical.

Place the napkin in the mouth. Wipe out the cavity with cotton. Arrange a generous amount of powder and liquid on a glass slab. A bone spatula must be used. Take a piece of linen tape eight inches long and half an inch wide, and place it where it can be taken up quickly. It is convenient in handling the inlay and easier to place it if you will attach it by varnish to a wedge-shaped piece of orange-wood. Everything must be ready because you must work fast; there is no time to hunt for instruments or pick up the inlay two or three times, or the cement will harden before you can get the inlay to place. Mix the cement as thick as you can and be sure the inlay will go to place. Place the cement in the cavity with a small instrument like a canal plugger bent at an obtuse angle. See that the cement covers every wall, is in the seat and over the margins. Now insert the inlay, and with the tape between the teeth, force the inlay to place with a drawing motion that will press it into the resistance seat. Hold this for ten minutes. The tape does two things; it gives equal

pressure on all parts of the inlay, and wipes the joints free of excess cement. I consider this last point an important one, because it is better to have the cement harden with the natural gloss to protect it than to leave an excess over the joints and cut it off after it has hardened. For when you try to cut it off with disk or stone there is going to be a breaking of the cement away from the joints which will extend below the margin.

When the tape is removed, varnish the joints. If the linen tape is too thick use strips cut from architect's cloth; this is thin and very strong.

The inlay may not be as good a shade as it was before it was cemented in, but when the cement matures and washes away from the margins there will be a great improvement.

In conclusion, let me repeat the injunction I laid before you in the opening paragraph, because I consider it the fundamental principles—one you must have ever before you in successful porcelain inlay construction. If you forget all else I have said, remember porcelain has not come to stay if you depend on the cement to keep it in the cavity; the cavity must have a broad, well-defined seat, not for the convenience of guiding the inlay to place when cementing it in, but for the purpose of providing adequate resistance against the stress of mastication.

DISCUSSION.

DR. PRICE: This question of porcelain fillings is too large to discuss here in detail as we would like. There are, however, two or three great principles underlying this work that we have to recognize.

In the first place, to make a perfect porcelain filling we must make a perfect (as nearly perfect as possible) fitting matrix, and we must reproduce the color of the tooth with our restored part. That does not mean merely to make the porcelain the same color as the tooth, but to make a completed operation which, after cementing, will have the color effect. That brings in the great problem of the relation and position of the different colors. We may be able to make a relatively perfect impression, but let us understand that after we have taken the impression we have several opportunities for spoiling its shape—first, by the tension of the matrix being changed by annealing. The doctor suggests that it be annealed once before the final burnishing, which I think is not enough. Every time we burnish we

have produced that condition in the metal which makes it necessary for us to anneal again before the metal will relax.

The man who makes the most perfect-fitting inlays is going to burnish his margins several times and anneal frequently. This experiment illustrates the warping of platinum due to heating and annealing, and shows a warping of one-eighth of an inch in three-quarters of an inch.

Another source of error in the change of the shape of the matrix is that any substance that has high specific viscidity and a great deal of adhesion has a great deal of power when shrinking. A viscid substance, like molasses, will make paper curl up when you put a drop on it, simply because the surface tension of that liquid is greater than the resisting force of the paper. Now, when we heat porcelain it becomes a viscid liquid, and one with very high adhesive property to platinum, and also one with a great deal of contraction and shrinking on cooling. Every time we fuse porcelain on a piece of platinum and allow it to cool, it will try to assume a spherical shape, besides shrinking, which will tend to curl the platinum instead of stretching or checking to allow the platinum to remain unbent. Why did the platinum change shape? It was flat, but now it is the shape of a rocker, simply because of the enormous force of the contraction of the porcelain on the platinum, which was not strong enough to prevent it. How are you going to stop that? When a man undertakes to build a structure of iron, to have the greatest strength and the least weight, he generally makes what he calls an angle, which we must do, and preferably use as wide margins as conveniently possible to leave the least possible distortion.

My own method is to re-burnish my matrix into the cavity with soft metal or wood point, and use just as much burnishing as I want to, fully expecting it is going to warp some in annealing. Each time, because of less burnishing, there will not be nearly as much distortion of the matrix. After annealing several times, I put in my first mass of material. One or two of our leading porcelain operators put shellac on the matrix, in order that the porcelain may pull away from the platinum and not distort it. Use simply enough porcelain so that the resisting strength of platinum will be relatively greater than the warping strength of the porcelain. There are so many phases of this that we will have to pass some important steps.

I want to speak of Dr. Woodbury's method of taking an impres-

sion of his cavity from which to make or start the matrix. There are two reasons why I do not do so. It takes ten or fifteen minutes for the cement to get hard enough so that you can work on it. In that same length of time you can get as good an impression by directly burnishing it in the cavity as that impression will produce and without doubling.

Have you ever been in a spinning factory and watched them spin brass? They start to work from the center and not vice versa. We should proceed in the same way to burnish the platinum over the margins. Be sure to do it in a way that you will not get a wrinkle. For my part, a filling is a failure if I have three thicknesses at one part of the matrix.

Now regarding the use of different kinds of porcelain in the same filling.

The unit of shrinkage for a low-fusing porcelain is entirely different from that of a high. The strength is greater where one kind of porcelain is used than when we use two or several.

When you put white material, like opaque lining, under porcelain of any color, you have in proportion to the translucency or transparency of the porcelain a mingling of the lower color with the upper color, and the effect is the same as if you cemented it in with a cement as white as that lining. The question of using the perfectly white matrix lining involves the necessity of overcoming the whiteness by the colors used above it, and that becomes possible relatively in proportion to the thickness that you have to work on. In shallow fillings it is almost impossible to kill the white color and bring the natural color of the teeth.

Bake a piece of brown porcelain onto some of the lining material and you will see the color is entirely different. How are we going to overcome the color problem? Only by comparison or imitation of effect. I was surprised to read in Dr. Woodbury's paper that he used only one color cement for all conditions. In effect the cement is simply a colored curtain hanging through the mass which interferes with its transparency and translucency. Can we prevent putting that curtain in the mass of the tooth? No, we have to have it there. Then we must imitate the natural color effects by modifying these conditions, which will involve changing the position and angle of the margin, the color of the curtain and shape of the angle, as well as the color of the porcelain.—*Summary.*

ORAL HYGIENE A NECESSITY TO HEALTH.

BY BURTON LEE THORPE, M. D., D. D. S.

The medical profession and the layman seemingly do not realize the importance of the hygienic care of the oral cavity, which is the incubator of many of the systemic diseases that the human system is heir to.

Frequent cases of disease of the intestinal tract, such as dyspepsia and gastritis, may primarily be traced to infection caused by decayed teeth and defective hygiene of the mouth, due to the accumulation of salivary calculus (tartar), the remains of diseased roots of teeth, which cause abscesses, hyperthophied (spongy) gums, etc., all of which contribute to systemic infection.

Some cases of appendicitis, no doubt, result from infection from unhygienic conditions of the mouth. The writer has seen one appendix which contained an amalgam filling, several bird shot and several bits of calcic material apparently broken loose from around the teeth and swallowed.

It is a general accepted belief that *the mouth is the breeding place* of the *bacillus of influenza, and that oral sepsis is the predisposing cause of influenza, and that patients having hygienic mouths are practically immune from influenza.*

In diagnosis it is the duty of the medical practitioner to examine the condition of his patient's teeth and gums, and if carious teeth, inflamed and spongy gums, roots and their sequelæ, i. e., abscessed conditions, etc., are in evidence, they should be immediately referred to the dental practitioner for treatment. No greater service can be rendered the average man, woman or child than at least regular semi-annual visits to the dentist, who should remove the salivary deposits, thoroughly polish all surfaces of the teeth, treat and cure hypertrophied gums and repair all defects resulting from caries, and the instruction of when and how to brush the teeth and gums and the prescribing of a proper tooth brush and antiseptic mouth-wash.

Few patients know that the teeth and gums should be brushed immediately upon rising in the morning and again just prior to retiring at night and after each meal where it is possible. The brushing and cleansing of all mucous tissue, i. e., gums, tongue, buccal and labial cheek and lip muscles, and the palate tissue, is of equal importance. This may be accomplished by a *stiff bristled flat surface* tooth brush, with which the gums are massaged with a rotary motion,

brushing the lower gums upward and the upper gums downward toward the necks of the teeth.

Another useful instrument indicated for patients who continually possess "the constipated" furred tongue is the tongue scraper —a narrow celluloid band, curved—about the size of a silver half-dollar, attached to a celluloid handle. With this instrument drawn across the tongue daily the hardened fur-like mucus can be scraped from the tongue, thus greatly increasing the hygiene of the mouth. Floss silk or small rubber bands run between the surfaces of the teeth after eating also materially aids in lessening the chance of decay and oral sepsis.

The dentist is best prepared to prescribe a proper mouth wash after testing the saliva; however, one simple and beneficial to the majority of mouths, which hardens the gums and cleanses the teeth, is none other than a two per cent carbolic acid solution held in the mouth during the process of brushing.

In mouths where the saliva is acid, of course an alkaline mouth-wash is needed, such as a solution of milk of magnesia applied nightly. As a preventive of decay and an agent to harden diseased gum tissue, a ten per cent solution of silver nitrate is unequaled. This, however, should be applied only by the dentist at intervals, as it temporarily stains the teeth and should be removed by him at a following visit with brushes and powders.

The main essentials are the mechanical and surgical removals of all deposits and diseased tissue, followed by astringent and antiseptic agents to heal the gum tissue, and the constant practice by the patient of daily mechanical friction with brush, powder and antiseptic washes. With these general infection may be avoided and systemic diseases prevented.—*Brief.*

THE RUBBER DAM.

If the gums are washed with oil of cloves immediately before adjusting the rubber dam, the pain incident to the application of clamps or ligatures is very greatly minimized.—E. K. Wedelstadt, *Dentist's Magazine.*

THE REFORMED ADVERTISER.

A letter from a correspondent, which appeared on page 277, raises incidentally an interesting question—viz., What should be the attitude of the ethical members of our, or, in fact, of any profession, to those individuals who, repenting of their deviations from the beaten professional track, are prepared, and, in fact, anxious, to so amend their ways as to become respectable and respected members of their profession?

Most of our readers must be familiar with that well-known passage in Scripture which tells us that there shall be more joy in heaven over one sinner that repenteth than over ninety-nine just persons who need no repentance.

And should not this be the ethical dentists' attitude on this question?

We do not altogether agree with one of the characters in that highly amusing play, the "Fascinating Mr. Vanderveldt," in her objection to religion being brought into everyday life. In fact, we consider that without being unduly paraded, principles such as this may well guide our daily professional life, and that individuals such as our correspondent's friend should be welcomed with open arms and received into the fold in a truly charitable spirit.

We quite recognize that on the other side there may be urged a strong and forcible argument such as is suggested by the question asked by the king in "Hamlet," "May one be pardon'd and retain the offence?"

But this is not the way in which we hold the question should be regarded; we have not to consider either whether the man has in the past, according to our lights, done right or wrong and deserves punishment such as it lies in our power to bestow, but what will be the ultimate effect of our attitude?

What will be the result of a welcome such as we have alluded to, and what, on the other hand, may be the possible outcome of a rebuff?

Is it not to the benefit of the entire dental community that, as far as possible, such a practitioner shall be prevented from falling back into his evil ways? And what is most likely to secure this?

It is all very well for men who have succeeded to snug little practices with select clienteles to turn up their noses (metaphorically, of course) at such backsliders.

A young practitioner who, by the death of his father suddenly succeeds to an advertising practice, or who is tempted through adverse circumstances to resort to questionable methods of practice, and nevertheless has to such an extent innate within him the true professional spirit that before many years are past his practice, so far as the method in which it is conducted, will compare favorably with any, is not a man at whom stones should be cast or fingers pointed in scorn.

It was said at the time of the passing of the Dentists Act, and it has been repeated many times since, that in course of time the advertising unqualified (we use the word in its proper sense, and do not thereby mean unregistered) men would as they died off be replaced by their sons or near relatives who would be qualified, and this prophecy is being to a great extent fulfilled.

But it is, to our mind, a fair and proper question to ask, how such students who may be related to living advertising practitioners are received at some of our dental hospitals?

We have reason to believe that at some of these institutions the fear of the possibility of its name being subsequently used for advertising purposes is sufficient, as it has been in the past, to stand in the way of such individuals being appointed to any vacant post for which they may be eligible.

At most of the dental hospitals students entering the practice of the institution (unless specially exempted) are requested to sign a paper to the effect that it is their intention to obtain the dental diploma of the Royal College of Surgeons of England, but of what value is such an agreement, signed as it is by a minor? On the other hand, a student who has passed a qualifying examination must of necessity be twenty-one years of age, and it is quite open to the authorities, therefore, before appointing any one to the post of house surgeon or demonstrator to require him to enter into a bond which will as effectually as possible present any chance of this. We have even heard of one instance where the mere fact that a student had been apprenticed for his training in mechanical dentistry to a somewhat notorious firm of dentists was actually allowed to stand in the way of his advancement at the hospital at which he was entered.

What wonder is it if students treated thus follow the many bad examples set them? Are not these precisely the cases which should be looked after most closely and sympathetically? Can professional jealousy, engendered because the parent or master may possibly by

means of his unprofessional methods be filching a patient or so ever justify such unfair treatment of an unoffending student? Emphatically no! Teachers and deans can not be too careful in this respect.

They should continually bear in mind Macaulay's words, and take care that they can never be with justice quoted in evidence against themselves: "Bigots never fail to plead in justification of persecution the vices which that persecution has engendered."—Editorial, *Dental Surgeon.*

WONDERFUL SURGERY.

Later advices from Philadelphia indicate that the operation on the heart of a man in the Germantown Hospital was even more remarkable than was indicated by the reports in the morning papers that the damaged organ was taken from the man's breast and held in the hands of the operating surgeon.

The first attempts to locate the bullet (he had been shot by a policeman) being unsuccessful, it was decided after long consultation to remove that organ, so that the search could be carried on more thoroughly. A small electric pump was made ready, the aorta, pulmonary artery, two vena cavas, and the smaller blood vessels ligatured and severed, the pneumo-gastric nerve, which controls the heart beat, cut, and the organ gently raised and placed in a box of absorbent cotton containing a small piece of radium, to maintain the energy of the heart muscle.

By means of small sterilized rubber tubes the electric pump was rapidly coupled up to the cut ends of the blood vessels, and then started. The peculiar lividity which characterized the bloodless negro skin (the patient was a herculean negro) soon gave place to a healthy black, and the surgeons were delighted to see the man gradually regain a normal healthy appearance, and full, deep and regular respiration. The search for the bullet was now renewed and the latter finally located.

After its removal the surgeons made some interesting experiments on the man. He was allowed to gradually come out of the ether, and it was found that even his brain was performing its functions normally. He spoke to those beside the bed, asked for a drink, whether the bullet had been found, and wanted to get up. He was then reanæsthetized, the pump rapidly disconnected, the heart re-

placed, the aorta and other blood vessels sewed in, the pneumo-gastric nerve tied together, and the chest opening closed. When the heart had been replaced and the vessels sewn together, a very anxious moment was passed by the surgeons. The heart muscle absolutely refused to beat. The man was rapidly dying. Finally under the stimulus of radium and a strong faradic current of electricity the wonderful muscle was seen to give a faint throb; another followed, and slowly and painfully it resumed its life-giving song, "Lub-dup, lub-dup," the sweetest music in the world to a worried surgeon's ear.

Prof. Brazen Bosh, who sends us the above details, states that, so far as he is aware, this is the first case of actual removal of the heart from the human body during life. There are some sixty-odd cases of suture (that is, sewing up of wounds) of the heart on record, of which twenty-three or twenty-four recovered.

He calls attention to the recent experiments by Chicago surgeons, as to the possibility of replacing wornout human hearts by fresh ones from healthy calves, and says that "the present operation may have an important bearing in this connection."

If it is possible to temporarily replace the heart by an electric pump, it certainly ought not to be impossible to do the same thing by using an animal heart instead of the pump.

It thus appears that still another method of increasing human longevity may soon be available.

The possibility of not dying is measurably nearer realization than it was twenty-five or even ten years ago; if Professor Metchnikoff's sour milk elixir fails, we can now fall back on surgery.

Professor Bosh is secretary of the Society for the Spread of Useless Knowledge.—*Special to the New York Globe.*

MUNICIPAL TEETH.

IMPORTANT LETTER FROM THE LOCAL GOVERNMENT BOARD.

The following letter has been received from the Local Government Board: "Sir—I am desired by the Local Government Board to acknowledge the receipt of your letter of the 15th ultimo, with reference to the question as to the duty of a district medical officer in regard to the extraction of teeth or the rendering of other assistance in the treatment of diseased teeth in the cases of pauper patients. In reply, I am directed to state that while it is the general practice

for district medical officers to perform, when necessary, simple dental operations, it seems to the Board that when, as in the instance to which your letter refers, the district medical officer considers that the case requires the skill of an expert, it would be proper for the Guardians to make arrangements for obtaining the services of a professional dentist.—I am, Sir your obedient servant Noel T. Kershaw." Mr. Preston Thomas, Local Government Board Inspector, said the reason why this matter was not provided for in the orders of the Local Government Board was because those orders dated from about 50 years ago; then dentistry was not recognized as a profession, and teeth were extracted by the chemist, the blacksmith, and the doctor. The matter would no doubt be provided for when they got a revision of the Poor Laws. The Chairman: In the next fifty years. The Clerk said, as instructed at the last meeting of the Board, he had sent the following letter to every union in the county: "A case has come before my board of an old, not able-bodied, woman who has had her teeth extracted, and requires to be fitted with a new set, her present artificial ones being now of no use. I am directed to ask what is the practice of your Board in such cases." Every union except Langport had replied, and the majority had never had such a case. One union stated that they provided tooth-brushes for the children who were boarded out. Another wound up by saying that the next thing would be that the male inmates of workhouses would expect to be provided with dress suits. —*Dental Surgeon, London.*

The National Dental Association will meet in September in Atlanta, Ga. The question now rises—will it pay the dental profession, and especially those who have been always constant in their attendance at the National meetings? I think the dental profession, as a whole, and especially in the western section, has become so thoroughly disgusted with this constant harangue, politics and so forth,

that they lose sight of the possible benefits that they might derive from the program.

The canvass for new President or for the one that it had already been promised to is full under way. There is probably some fear that he will not be elected as easily as the two previous ones, for so far as we know the canvass was not started until the meeting was reached in the two previous cases. This is certainly an interesting period in the history of the National Dental Association in so far as to not only involve the names of a few men in the profession, but it is a very serious proposition for the dental profession as a whole. There is no great or serious objection to those elected as officers, except that there has been publicly made, charges against their character, and up to the present time, we have heard of no steps being taken for the purpose of vindicating their character or of removing the dirty stigma on the National Dental Association, or in other words, the body that represents the dental profession of this country.

When any of these men are interrogated on this matter, they say that Dr. Emory A. Bryant has made these charges against the officials of the National Dental Association. They say—why, that man is crazy. If it is true that he is demented, he ought to be placed where he could not defile the character and integrity of those gentlemen who are to represent the dental profession of the United States, but as we have just said, they don't seem to recognize the importance of stopping such a clash as is going on. Furthermore, the amendment to the army and navy bill which would dispossess such men as John S. Marshall and Bob Oliver from the service at a time of life, when it is not an easy matter to again fall in practice, is certainly one of the most disgraceful things I have ever had brought under my observation, and yet we pretend to pose before the public eye as gentlemen of higher learning.

There is much that might be said on this subject, and that should be said now before the meeting of the National Dental Association, because all of this is certainly of vast importance to the future of our profession. All that the officers of the National Dental Association need do is to come out and show Mr. National Dental Critic that he has got the wrong pig by the ear, and the profession will stand up for the honest conduct of the Dental Society and its officers.

G. W. C.

MISCELLANEOUS

PROTECTION FOR FACINGS.

To prevent "etching" of facings when using 20 per cent platinum solder, paint the surface with a creamy solution of carbonate of magnesium before investing.—A. E. Matteson, Chicago, *Dental Review.*

RESTRICT THE FLOW OF SOLDER.

In filling the cusps of gold crowns mark the limits of the solder on the sides of the crown with a lead pencil and the solder will not flow over the pencil mark.—F. W. Franklin, *Western Journal.*

RESIN—SOAP THE BELT.

Dr. W. W. Belcher says the grip of the engine cord or belt is greatly improved by holding against it while running at high speed a bar of soap containing resin. To make sure of the resin, buy cheap laundry soap.—*Dental Register.*

DECOLORING STAINED INSTRUMENTS.

The discoloration or coating which results from the frequent sterilization of instruments by boiling may be removed by rubbing them with a cloth saturated with an aqueous solution of two ounces of prepared chalk, ammonia and alcohol.—*Dental Register.*

ATTACHING VULCANITE TO METAL PLATES.

I have found that pink rubber will become attached to a metal base more securely than will either red or black rubber. I have, since discovering this fact, used it altogether and it separates but seldom, especially when studs or loops are used.—C. N. Thompson, Chicago, Dental Review.

"TAKING A BITE."

In taking a bite, I request my patient to press the tip of the tongue tightly against the posterior border of the trial plate, impressing upon him the importance of keeping the mind on this procedure. After that I ask him to close the jaws. The resultant bite is almost always correct.—Hugo Franz, Chicago, *Dental Review.*

REPAIRING PLASTER CASTS.

Plaster casts may be repaired by the use of celluloid dissolved in camphor and ether, equal parts. Keep the creamy mixture tightly corked to prevent evaporation. Free both surfaces from all loose particles and coat with the solution, pressing firmly to place.—S. M. Weeks, *Cosmos.*

TO POLISH A PORCELAIN CROWN OR ANY PORCELAIN TOOTH THAT HAS BEEN GROUND TO CHANGE SHAPE.

Proceed as follows: Make a very soft paste of a saturated solution of spirits turpentine, gum camphor and pumice flour. Keep your polishing wheel wet with this mixture while repolishing the tooth. You will be pleased with the result.—W. H. Spaulding, *Summary.*

HEMORRHAGE AFTER TOOTH EXTRACTION.

Personally, I am of opinion that obstinate hemorrhage from alveoli after extraction can be most certainly controlled by means of carbolized resin and alum. I have never yet had a case when this happy combination has failed to do its work.—J. W. Taylor, *British Dental Journal.*

COLLECT YOUR BILLS.

Persons who owe bills which are past due, in need of further dental services, will seldom go to the dentist whom they owe to have it done, even when they expect to pay for that particular work. But when they are forced to pay the old bill they are likely to return for further work to the original dentists, as to go elsewhere; more likely, if the work has been satisfactory, and work which has been paid for is usually the most satisfactory.—Dr. H. C. Logan, in *Dental Review.*

PREVENTING CARIES.

As soon as possible, after the teeth back of the cuspids have erupted, dry them carefully and swab them with a solution of nitrate of silver, working it into the sulci and any defective structure that would invite caries. After a minute or so wipe off the teeth. I have used this method of preventing caries with success for the past ten years. It will be necessary to watch the teeth carefully, and should any indication of caries appear repeat the treatment.—H. L. Hamilton, in *International.*

TO POLISH RUBBER PLATES.

In giving the final polish to rubber plates, I find that a polishing wheel made of about twenty-five thicknesses of unbleached muslin gives a better finish than chamois skin or a soft brush wheel. The edges of the circles of cloth become frayed and do not scratch.—*A. C. Willman, Kankakee, Ill., Review.*

PORCELAIN INLAY.

As far as using different layers of porcelain is concerned, I do the same as Dr. Woodbury. Start with a good sized piece of matrix material and burnish it down into the cavity. I pay no attention to the matrix or the body of the filling. I use a diamond disk instead of hydrofluoric acid for etching.—Dr. Wasser, discussion in *Summary.*

IMPRESSION FOR MATRIX.

I would like to speak particularly of an impression. I think there are advantages in impressions which others do not seem to appreciate. I believe that I could prove that I can make a matrix much quicker by placing the impression upon some modeling compound and swedging it with soft rubber.—Dr. Bell, discussion in *Summary.*

MARGINS AND THE MATRIX.

Get the margin absolutely clear and sharp before any pressure is brought to bear upon the matrix on the deep-seated part, remove the matrix after first burnishing, paying very little attention to whether it is cracked or split, as it takes a very large crack to make any difference. I have discarded hydrofluoric acid, and generally make a cross section of cuts with the diamond disk, whether the inlay is large or small, but it is rather difficult with small inlays.—Dr. Burt, discussion in *Summary.*

WHEN PRESSURE ANAESTHESIA FAILS.

Teeth of old persons, teeth of inveterate tobacco chewers, worn, abraded and eroded teeth, teeth with extensive secondary calcific deposits, teeth whose pulp canals are obstructed by pulp nodules, teeth with metallic oxides in tubules, teeth with leaky old fillings, badly calcified teeth—mainly all from one and the same cause, namely clogged tubuli. In most cases no amount of persistent pressure will prove successful.—George Zederbaum, *Dental Register.*

SHRINKAGE IN RUBBER DURING VULCANIZING.

Dr. G. B. Snow says the amount of shrinkage depends not alone on the time the rubber is subjected to the process of vulcanization, but also upon the temperature. The lower the temperature and steam pressure, the less the loss in shrinkage and the less the contraction in cooling. Low heat and long time also insure an improvement in the texture of the product.—*Dental Digest.*

CEMENT SHADES IN PORCELAIN INLAY.

Dr. Price lays a great deal of stress on the shades of the cement. I fail to see the marked effect on the different shades of cement that he does. I use the different shades to the best of my judgment, but I would like to know in how many cases he could distinguish or name the shades used after they are cemented in, if he had a chance to examine them. I do not believe that he could come very close to it.—Dr. Dinsmore, discussion in *Summary.*

TO WAX TOGETHER THE FRAGMENTS OF A BROKEN PLATE.

It is often difficult to securely wax together a broken plate, especially a lower partial. The attempt to hold the broken pieces in one hand while you attach them with the other makes you wish you had three or four hands. If a strip of wax such as the dental depots use for mounting a set of artificial teeth be softened and laid on a flat unyielding surface, a piece of glass, for instance, the broken plate may be pressed down into the wax, using both hands to hold the piece in proper position. When you let go they will remain in place and you are free to examine carefully and wax together.—A. C. Willman, *Dental Review.*

A VERY EFFICIENT METHOD FOR ANESTHETIZING THE PULP WITHOUT THE USE OF THE PRESSURE SYRINGE.

Prepare the cavity in the usual way. Place a saturated pledget of cotton with cocain solution directly over the pulp and fill the remainder of the cavity with a piece of vulcanite. Then take a short piece of orange wood, fit it into this cavity as prepared and direct the patient to bite down upon this with increasing force. In this way we can obtain a well directed regulated force or pressure and with less discomfort to the patient and operator.

In our daily clinics we have succeeded in anæsthetizing pulps by this method after repeated attempts by other means have failed.—E. T. Loeffler, *Dental Summary.*

ETCHING VS. GROOVING.

It has been demonstrated time and again that cement will not adhere to a glazed surface as well as to an etched surface. I have found from experience that in all cases where an inlay has dropped out of a cavity you will find that the cement adhered to the surface of the tooth and not to the clay itself. I do not attempt to groove my inlays any more on account of the danger of serious damage, and I find it not necessary. J. E. Nyman, *Dental Summary.*

THE SENSE OF TOUCH.

In certain operations the highest development of the sense of touch is not only important, but vital as well. For instance, in the treatment of pyorrhœa alveolaris, the removal of minute, deep-seated deposits which can not be seen must precede the cure. The sense of touch is here as important as the sense of sight to the porcelain worker. In this treatment the other senses are secondary to the sense of touch, which is absolutely mental in its highest form.—H. C. Spencer, *Dental Cosmos.*

ANTISEPTIC LIQUID SOAP.

White soap, 1 kilogram; glycerine, 250 grams; salol, 60 grams; olive oil, 250 grams; black soap, 200 grams; water, 3 liters. Boil for three hours and cool for one day, then add water 3 liters; decant, cool, and then add alcohol of 90°, 250 grams. Put aside for two or three days and filter. These proportions are for five liters of liquid soap. I have found the plan which I now recommend very economical, as only a few drops of the liquid soap and antiseptic solution are required to thoroughly cleanse and sterilize the hands.—Dr. Wormer, *Cosmos.*

MANAGEMENT OF A BROKEN PLASTER CAST.

I had a plaster model of a case and had promised to deliver it at the next sitting. In some way I broke it. So I was "up against it," as it were. Putting the broken pieces together I invested it in the flask, placed my bite and mounted flask model and all on the articulator, articulated my teeth and removed the articulator and had my case safely flasked. When the plate was finished you could not even see where the model was broken. This item might save some poor D. D. S. the trouble of reporting to the patient: "I'll have to make another impression."—H. A. Magruder, *Texas D. Jour.*

COLOR IN PORCELAIN.

The greatest difficulty we encounter is that the color of all porcelains bakes out in a greater or lesser degree with increases of temperature. With most shades of the most makes of porcelains an overbake of 100 degrees Cent. will remove 75 per cent of the color and 25 degrees, not quite a proportional amount. This requires that with most colors for the exact production of a given shade with a given body we must bake it to within a few degrees of the same temperatures. This can be done with precision with the aid of the pyrometer and certainly can not be done every time by many, if any, without.—Dr. W. A. Price, *Summary.*

A DIFFICULT TASK.

One of the most difficult tasks, requiring the greatest amount of skill and the most dextrous manipulation upon the part of the operator, is that of making a perfect contact between the filling and tooth structure at the gingival margin. Probably no other operation results in failure so often, unless it is that of the removal of calculus from the roots of teeth in pyorrhea, as does the proximal filling in a bicuspid or molar at its cervical margin when made of cohesive gold. This is true because of the inacessibility at that portion of the cavity and because of the constant tendency the cohesive gold has to curl up or draw away from the tooth structure when condensed under the force of the mallet.—Dr. J. F. Wallace, *Tri-State.*

DENTAL SOCIETIES.

No doubt many of us have asked ourselves: Why should I join a dental society? If anything of value transpires I can read it in the journals. It is true that the dental journals do much toward the distribution of knowledge, and are of great value to professional progress, but it can not be said that they take the place of the societies. A man reading an artitcle can not rise to dispute with the author; if the argument is not quite clear he can not ask for an explanation. If the dental journals be closely observed it will be noted that the great bulk of the matter comes originally from the dental societies. Progress, therefore, however much aided by the publications, is nevertheless fostered by the societies that urge men to write and discuss and prepare attractive programs to induce attendance.—*C. W. Lawrence, Bethany, Ill., Review.*

OIL STONE RESURFACING.

Resurfacing a stone is necessary whenever any concavity of the surface or other defacement is observable. A coarse grade of emery or sand paper secured on a flat surface, the stone used as a plane reproduces the surface, using the finest grades of emery or sand paper for the finishing. The stone should be clean and free from oil previous to surfacing.—B. Bannister, *Summary.*

REMOVE THE CAUSE.

The cause of undue response to thermal shock in a tooth pulp, or sensitiveness of dentine to touch, is a loss of a part of the protective covering, the indication is to restore the covering; the restoration should be made with a substance as nearly resembling tooth structure as possible. Experiment has demonstrated that of the available materials, cement most nearly fulfils the requirements and most nearly restores normal conditions. Lining the cavity with resin varnish will overcome the irritant effects upon the dentine.—Dr. F. G. Worthly, *Western Dental Journal.*

REWARDS OF PROFESSIONAL LIFE.

In the May issue of this journal we reprinted a paper in full, "The Rewards of Professional Life," by Dr. C. N. Johnson, of Chicago, the perusal of which brought to mind a "reward" that came into our life some months ago. A lady entered our office, literally dragging a little three-and-one-half-year-old girl, who was crying and struggling. We took her in our arms and soon had her quiet; she readily consented to taking a seat in the chair; she had been suffering intensely with an exposed pulp—rather unusual for one of her age. In a little while I had her tooth comfortable and her face was wreathed with smiles, and we had gained her complete confidence. This alone was a victory. We made arrangement with her mother to bring her back on the third day; this time she preceded her mother into the office and came to me smiling; holding in her hand some flowers, she said: "Here is some fowers I bought (brought) you, my toof didn't hurt any more," her mother stating that without suggestion from any one she gathered the flowers to bring me. This was a reward beyond price in dollars.—Pitt S. Turner, Editorial in *Practical Dental Journal.*

OVERBAKING PORCELAIN.

It is a good deal easier to show how to do things than it is to tell how to do them. It is not a question of the time it takes, but a question of ideals. Many have eyes to see but see not. The question of shrinkage is of great importance. We ought to follow some of the suggestions of some of the old-time porcelain workers, and that is not to bake the inlays to a full glaze. There will be great shrinkage and stress brought upon the layers. We carry the bake to 2,300° to get a full glaze. Every time the inlay is baked it shrinks more than it did the first time. So that if you repeat the heat up to this high temperature, and fully glaze, you will get a more dense porcelain than if it were baked at the same temperature each time.

We overbake the porcelain if we carry it to 2,300° every time. It does not have the quality that is should have. Dr. Price is absolutely right about different colors of cement. You do not have to have a large quantity of cement; use just a little.

We are doing much better work now than we ever did before, but we are not doing any better work in proportion than the men who did their work years ago. That ought to make a plea for ideals. I am satisfied with inlays so far, and the next one I want to make better. Let us try the careful burnishing of the matrix and getting rid of this shrinkage, and in that way get better inlays. Experiment a little and see.—Dr. Stephan, discussion in *Summary.*

REPLANTATION OR IMPLANTATION.

The more conservative operators are very wary about replanting or implanting teeth. It is seldom that you will find a case that will last longer than three years. They are very firm for several months; if you tap them with an instrument they have the metallic sound, seem to be a solid mass, like hitting a dry bone. They have not got the elastic sound or percussive touch as you find in a tooth with a live socket. Shortly after that that condition passes away, and gradually the root of the tooth becomes absorbed, and about three years is the time limit usually of the great bulk of that class of teeth. I think I should hesitate to reimplant a tooth that I could not save while it had its peridental membrane still adhering to the periosteal surface in the alveolar border.—*B. G. Maercklein, Milwaukee, Wis., Review.*

PERSONAL AND GENERAL

Dr. Stella Snyder, a dentist at Hamilton, Ohio, is suffering from serious collapse caused by overwork.

Cox-Teague.—Dr. E. A. Cox, of Temple, Texas, and Miss Edna Teague, of Brenham, were married June 27.

Dr. W. H. Burt, a dentist of Atlanta, Ga., formerly of Americus, died at his home in Milledgeville, Ga., June 25. His age was 63.

Maxwell-Kurtz.—Dr. G. W. Maxwell, of Birdsboro, Pa., and Miss Frances V. Krutz, of Willow Glen, were married recently in Reading Pa.

College to Remove.—The North Pacific Dental College, now located at Portland, will soon remove to Seattle, according to the *Seattle Star.*

Buys Dental School.—Dr. W. H. Condon, dean of the Creighton Dental College, has purchased the Omaha Dental College and will combine the two schools.

Ross-Boyles.—Dr. Thomas William Ross, a dentist in St. Louis, Mo., and Miss Lilias Boyles, of Warrensburg, Mo., were married at the latter place June 28.

Dr. F. N. Luck, a dentist in Nashville, Tenn., died June 30 of typhoid fever. Dr. Luck's former home was in Chattanooga and he was married in that city but a few months since.

Dental Library Willed to Society.—The will of the late Dr. Charles W. Stainton, of Buffalo, N. Y., just probated, bequeaths his dental library to the Eighth District Dental Society, of New York.

New Member on D. C. Board.—W. W. Evans was appointed member of the Board of Dental Examiners for District of Columbia vice W. F. Finley, retiring member. Appointed June 28.

Dr. Albert Fickessen, a dentist in New Orleans, died June 25th of an overdose of strychnine taken as a heart stimulant. He was fifty-two years old.

Meliak-Lang.—Dr. Naseef Melaik, of Eureka, Ill., and Miss Clella Lang, of Kewanee, were married at the latter place June 26. The groom is a graduate of the Chicago College of Dental Surgery.

Tooth in Lung Awarded $2,400.—The Schiffman Method Dental Company, of Los Angeles, must pay to Miss Alice C. McGehee $2,400 because one of its employes dropped a tooth into her mouth. The tooth passed into the patient's lung.

Griffith-Emerick.—Dr. J. J. Griffith, a dentist of Westfield, Ill., was married June 27 to Miss Clara Emerick at the home of the bride's parents at Sumner, Ill.

Dr. G. B. Salter, a dentist of fifty years' practice, dropped dead June 30 while waiting for an elevated train. He was 70 years old and was in practice in Joliet, Ill., until about twenty years ago, when he located in Chicago.

Dr. J. Gibson Petrie, of Lambertville, N. J., while extracting a tooth for a patient a few days ago, a piece of the tooth struck him in the eye, cutting it. He is unable to attend his practice and the injury may prove serious.

Automobile is Destroyed.—Fire completely destroyed the automobile house of Dr. C. D. Owens, dentist, at Benton Harbor, Mich., and his auto was destroyed. The fire occurred at 4 a. m., and it is believed to have been of incendiary origin.

In Honor of Hayden.—A movement to honor the memory of Dr. Horace H. Hayden, one of the founders of the American Society of Dental Surgeons, and the first president of the Baltimore Dental College, was started at the annual banquet of the Hartford Dental Society.—*Hartford (Conn.) Post.*

Dr. De Witt Clinton Franklin, the first resident dentist of Los Angeles, died July 11 at his home, after an illness dating back several years. He was aged 71 years. Dr. Franklin was for forty years a resident of Los Angeles, and was closely connected with its growth. He was born in Hunterdon county, New Jersey, and was graduated with honors from the Ohio Medical College in 1856. He was the first resident dentist in Los Angeles.

Burglaries.—Drs. H. E. Hun, at Warren, Ohio, loss $100; Walter S. Quinn and N. H. Leaty, at New Haven, Conn., loss considerable; C. D. Richey, at York, Pa., loss $60; Moore, O'Toole, Nichols, Ball and Wilson, all at Ann Arbor, Mich., loss heavy; Jackson & Brubaker, Boston Dentist and F. G. Hunt, at Denver, Colo., loss aggregates $250; T. E. Howson, Saginaw, Mich., loss considerable; Ashton, at Bay City, loss $240; W. L. Conkey, at Appleton, Wis., loss $50.

Want Dentists Arrested.—Three members of the State Board of Dental Examiners called upon Governor Hoch to secure his assistance in forcing six of Wichita's dentists to conform with the law under which the board was created in the legislature of 1903. The members were: Dr. O. H. Simpson, of Dodge City, president of the board; Dr. F. Hetrick, Ottawa, vice-president, and Dr. M. I. Hultz, Hutchinson. The delegation complained that six Wichita dentists had refused to pay their yearly fee of $1.00 for the renewal of their licenses and that J. A. Brubacher, county attorney of Sedgwick county, had refused to take any action tending toward the enforcement of the law in that particular. Mr. Brubacher said that he could not see that the dentists had been guilty of a criminal offense when they did not pay the dollar. He said that while the law declares that dentists should pay one dollar each year for the renewal of their licenses, the law did not revoke the former licenses, being defective in this particular.

Mr. Brubacher said that he would have sworn out complaints if the dentists were practicing without a license, but he could not prosecute them for not paying the dollar to renew the license.

Dr. Joseph E. Zipf, a dentist in Joliet, Ill., died July 7 in that city where he was born in 1867. Dr. Zipf was a graduate of the American College of Dental Surgery, Chicago. Deceased had been in failing health for some time.

Vulcanizer Explodes.—Dr. Oliver Colburn, an aged dentist, residing at Big Rapids, Mich., was injured by an explosion of a vulcanizer. Pieces of copper broke all the windows in the house and cut his face, necessitating nineteen stitches. He may recover.

Dr. Bethel Resigns.—Dr. L. P. Bethel, for the past five years dean of the dental department, Ohio Medical University, Columbus, Ohio, has severed his connection with that college and will devote the time to his orthodontia practice. Dr. Bethel has been engaged in dental college teaching for the past fourteen years.

The Estate of Laban Patch, a former dentist of Troy, Ohio, aggregating nearly $44,000, is to be divided among thirty-one nephews and nieces who are scattered from Maine to Montana. Patch was a pioneer dentist of the Western Reserve, and made several large fortunes, a number of which he lost in investments. His dental library is said to be one of the most valuable of its kind in Ohio.

Eastern Ontario Dental Association.—The following officers were elected at the closing session of the Eastern Ontario Dental Association: President, Dr. C. W. McBride, Smith's Falls; vice-president, Dr. McCordick, North Gower; secretary-treasurer, Dr. Davy, Morrisburg; supervisor of clinics, Dr. Maybee; membership and ethical committee, Dr. Bower, Ottawa; Dr. Sparks, Kingston.

New Dormitory for U. of P.—Plans for a new dormitory to be named the Dr. James Trueman Dormitory, after the founder of the Dental School of the University of Pennsylvania, were discussed at a banquet of the Dental School Alumni. It is proposed to begin work soon on the dormitory, which will cost $50,000. Addresses were made by Provost Harrison, Dr. E. F. Smith, Dean Edward C. Kirk, Dr. James Trueman, Prof. M. H. Cryer, Dr. Luther P. Weaver and Dr. M. L. Ryan.

Rochester Free Dental Dispensary.—On Washington's birthday, February 22, 1905, the Rochester Dental Society, under the auspices of the Rochester Public Health Association, opened a free dental dispensary. Equipment and materials valued at $1,200 was installed; one-half of this amount was donated in cash by a member of the Rochester Public Health Association and one-half by members of the Dental Society, city merchants and dental manufacturers and dealers throughout the world. Report of operations to March 1, 1906, are as follows: Patients treated, 203; separate visits made, 478; operations performed, 1,078. F. W. Proseus, chairman; Wm. W. Belcher, B. S. Hert, W. W. Smith and L. H. Gilbert, Committee.

Damages for Death of Dentist.—The Second Appellate Division of the Supreme Court of New York affirms in the care of Morhard vs. Richmond Light & Railroad Company, a judgment for $40,000 damages for the death of a dentist. It says that it does not think this amount excessive, it appearing that the dentist was thirty-seven years of age at the time of his death; that his income from his dental profession had been from $17,000 to $20,000 a year, and that he left three children, the eldest being eleven years of age, besides a posthumous child, born six months after his death.

Pennsylvania Semi-Centennial.—Commemorating the fiftieth session of the Pennsylvania College of Dental Surgery, the members of the Alumni Association held their golden anniversary banquet in the Red Room of the Hotel Bellevue-Stratford in Philadelphia. The toastmaster was Dr. Wilbur F. Litch, and the addresses were: "The Pennsylvania College of Dental Surgery," Dr. William H. Trueman; "The Board of Corporators," Dr. I. Minis Hays; "The Faculty," Dr. George W. Warren; "The Class of 1854, Philadelphia College of Dental Surgery," Dr. James Trueman; "The Dental Council of Pennsylvania," Dr. Nathan C. Schaeffer; "The Alumni," Dr. Edward C. Kirk.

Dentist's Assistant Asphyxiated as Result of Curiosity.—At Eastbourne the East Sussex coroner has been inquiring into the death of Richard Thomás Ford, aged 16, a page employed by Mr. Myers, a dentist, near London, England. The boy was stated by his father to be of an inquiring disposition. His duty was to attend to the consulting room and to answer the door. Owing to his not returning home at the accustomed time a search was made and he was found dead, with the apparatus used for administering nitrous oxide affixed to his face. He was reclining on a couch, his head was buried in a cushion and he was in such a position that he could not raise himself easily. The jury returned a verdict of death from misadventure and expressed the opinion that no blame was due to Mr. Myers, it being usual to leave such apparatus to be removed by the surgery attendants.

Germany in Need of Dentists.—The cry from Germany is for dentists. Investigation as to the number of practicing dentists in the city of Magdeburg, as well as in the entire province of Saxony, shows a decidedly small number in proportion to the population, especially since, in recent years, the Germans are coming to realize more and more the importance of caring for the teeth. Magdeburg, with nearly 250,000 inhabitants, at the present time shows only twenty-one practicing dentists, one of whom a lady, has studied dental surgery in America, and enjoys a large and profitable practice. It is clear, opines Consul F. S. Hannah, of Magdeburg, that there is an excellent opportunity for young dentists, and especially for young American dentists conversant with the German language, to locate and build up a practice in some of the many comparatively large and flourishing cities of this province. In the large cities like Berlin, Leipzig, Dresden, where American dentists already are located, they are enjoying marked success.

REMOVALS.

Dr. J. F. Thomas from Reading, Pa., to Pittsburg, Pa.; Dr. Russel from Milo, Iowa, to Albia, Iowa; Dr. A. D. Hamilton from Corsicana, Texas, to Abilene, Texas; Dr. J. M. McKim from Hannibal, Mo., to Canton, Mo.; Dr. W. H. Benson from Waynesville, Ill., to Rushville, Ill.; Dr. J. F. Eldred from Chicago, Ill., to Carlinville, Ill.; Dr. A. R. Merrick from Wilcox, Pa., to Wellsboro, Pa.; Dr. Emil Zanglein from Streator, Ill., to Lincoln, Ill.; Dr. W. V. Fallis from Chicago to Omemee, N. D.; Dr. E. H. Hedden from Fort Dodge, Iowa, to Philadelphia, Pa.; Dr. E. D. Hubbard from Edwardsville, Ill., to Granite City, Ill.; Dr. W. G. Hay from Moline, Ill., to Lubbock, Texas.

Dr. Tuller an Inventor.—Toothsome Topics are somewhat sharp and for fear they may become too cutting our friend Tuller has been directing his attention to razors, that is, contact with the ordinary razor might produce—(as a result of suggestion or hig! hip!!-notism) something sharp—a serpent's tooth, for instance. He has, therefore, invented a safety razor and as capital has been furnished for promotion he will no doubt be amply rewarded for his original research along this line. The razor, lather brush and stropping device are of such peculiar compactness that together with the soap may be carried in the vest pocket case, taking up less space than an ordinary memorandum book. The razor with handle when folded takes up scarcely more room than a silver half dollar and yet has as full capacity for shaving as any razor.

State Board Loses Decision.—The application of E. C. Crandall, of St. Joseph, Mo., for a writ of mandamus directed against the state board of dental examiners, to compel it to issue to him a license to practice dentistry, made to the supreme court, sitting in banc, was granted May 3. The license and examination were refused Crandall by the board of examiners because he was not a graduate of a recognized dental school, though he had been practicing dentistry for a number of years. The validity of the law under which the board refused Crandall the license was attacked.

Effects of Earthquake on Fillings.—In a letter to his father, Judge A. T. Watts, of Beaumont, Texas, Sam T. Watts, a former Beaumonter, who went through the great earthquake disaster, states a peculiar effect which has been noticed among the survivors among the great San Francisco disaster. He states that he has observed that since the earthquake that the filling has been falling from the teeth of ever so many persons. The filling, he says, from his teeth is gone, and he is authority for the statement that the same experience is related by scores of other people. Mr. Watts is puzzled about the matter, and states that he does not know whether to attribute it to some peculiar influence exerted during the earthquake or to the fact that the survivors have partaken largely of canned goods and the acids contained therein may have caused the trouble. In his letter to his son Judge Watts advances the plausible theory that it was because of the chattering of the teeth of the San Franciscans from fear during the earthquake which has caused the filling of their teeth to fall out.

FOR SALE.

Price pyrometer, used very little; reason for selling, no use for it in this section; muffle entirely new, never used. Price, $50; cost, $100. Address "Pyrometer," care of THE AMERICAN DENTAL JOURNAL.

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INDEX TO ADVERTISEMENTS.